

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



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In the Matter of the Application of San Diego
Gas & Electric Company (U 902-E) for a
Certificate of Public Convenience and Necessity
for the Sunrise Powerlink Transmission Project

Application No. 06-08-010
(Filed August 4, 2006)

**SAN DIEGO GAS & ELECTRIC COMPANY'S (U 902-E) MOTION TO CLARIFY
ASSIGNED COMMISSIONER'S RULING AND FOR A SCHEDULE ADJUSTMENT**

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Pursuant to Rule 11 of the Commission’s Rules of Practice and Procedure, San Diego Gas & Electric Company (“SDG&E”) hereby moves for clarification and a schedule adjustment as described herein. On July 24, 2007, the Assigned Commissioner issued a “Ruling Addressing Newly Disclosed Environmental Information” (the “ACR”). The ACR could delay the issuance of the Draft EIR/EIS by up to five months, or until January 8, 2008, and of the final EIR/EIS until on or before June 6, 2008.¹ The ACR asserts that “newly disclosed” information pertinent to the Commission’s environmental review requires this delay, and it faults SDG&E for failing to disclose the cited information earlier. The ACR (at 13-14) recognizes that the ordered schedule extension likely will delay the in-service date for the Sunrise Powerlink beyond 2010. In addition, the ACR finds that Sunrise is not needed in 2010, and that SDG&E can meet its 2010 RPS requirements without Sunrise. As detailed below, this motion seeks clarification regarding SDG&E’s ability to meet its RPS requirements, and requests a schedule adjustment to ensure that there is no more than a one month delay in the CPCN process.

¹ The November 1, 2006 scoping memo in this proceeding set the draft EIR/EIS to issue August 3, 2007. This date remained unchanged in the January 26, 2007 ruling modifying the procedural schedule. The Division of Ratepayer Advocates (“DRA”) suggests that the ACR will now postpone the Commission’s decision on this application until August 2008. Email, Joe Como, DRA Counsel, to A.06-08-010 service list, July 26, 2007.

I. INTRODUCTION

SDG&E is committed to working with the Commission's Energy Division to effectively address the environmental issues identified in the ACR. However, the Ruling, if left unclarified and on the same timeline, will certainly affect SDG&E's RPS compliance and the reliability and economics of service, which necessitates this motion. SDG&E seeks to move this case forward expeditiously in a manner that results in a strong, accurate record, and permits needed transmission infrastructure to be constructed on a timely basis. To aid the Commission in this endeavor, SDG&E has assembled below pertinent information currently contained in the record or in data request responses to the Energy Division in a consolidated showing so the information is easily accessible. As shown below, the record already contains significant information in the areas identified in the ACR as "newly disclosed information." By bringing this information together in one cohesive package, the process can be streamlined such that any additional environmental review can be conducted expeditiously and that any delay in issuing the draft EIR/EIS should be minimal.²

The ACR (at 14) finds that the schedule delay it orders "[will] not jeopardize SDG&E's ability to meet its RPS obligations, and to serve its customers reliably and economically." Of most concern is the ACR's misunderstanding of SDG&E's testimony concerning the ability to meet its 2010 RPS goals without Sunrise. In addition, the ACR misses the weight of the evidence that Sunrise is needed for reliability in 2010, and that delay results in a net cost to consumers. For these reasons, as detailed below, SDG&E seeks to clarify the ACR's finding

² To this end, we attach hereto exhibits consisting of items from the record of this proceeding and other documents cited in support of this motion. For convenient reference, we also attach a list of the appended exhibits.

concerning SDG&E's ability to meet its 2010 RPS goals without Sunrise, and adjust the ACR's revised schedule to minimize the delay.³

II. THE ACR'S SCHEDULE DELAY WILL PREVENT SDG&E FROM MEETING ITS RPS COMPLIANCE GOALS, IMPAIR RELIABILITY AND COST CONSUMERS.

The ACR (at 14) commits "to ensuring that we do not jeopardize SDG&E's ability to meet its RPS obligations, and to serve its customers reliably and economically." The ACR (*id.*) acknowledges that "while there is dispute on some of these issues, there is also evidence in the record that if the proposed Sunrise Project is approved, the delay necessitated here is not significant." The ACR concludes (at 16), after citing a few portions of the record, that the delay it orders "is unlikely to affect in a significant way the achievements of the goals identified by SDG&E in pursuing this project."⁴

Respectfully, a review of the record beginning in December 2005 when SDG&E filed its application does not support this conclusion. This broader context compels a clarification reflecting both the importance of a legally-defensible Final Environmental Impact Report and the consequences for SDG&E's customers and the State of California if Sunrise is delayed past 2010 – a delay that will prevent SDG&E from meeting its RPS obligations and adversely affect its and the CAISO's ability to serve their customers reliably and economically. The new schedule will delay Sunrise past 2010, and this delay will harm both SDG&E and the State of California's

³ By limiting its response herein, SDG&E does not concede that the ACR's findings are correct. In particular, the three items the ACR characterizes as "newly discovered" – expandability, the renewables substation, and impact on renewable development – were in fact disclosed in SDG&E's application, amended application, Proponent's Environmental Assessment ("PEA"), and discovery responses, and have been aired thoroughly on the record to date. *See* Exhibit 1 hereto. SDG&E reserves its rights to seek relief on these grounds.

⁴ As indicated in the ACR (at 16), SDG&E found some input errors in the extensive economic modeling for year 2020 that was prepared in response to the Scoping Memo. SDG&E has provided the record with corrections and is answering discovery directed at the errors. We regret the errors, and note that, with the record corrected, the need hearings can resume without prejudice to any party. These errors in no way impact the environmental work and thus they should not affect processing the draft EIR.

consumers. Indeed a letter just served in this proceeding by the CAISO confirms all of these concerns, and concludes that the CAISO needs the 2010 in-service date to meet its statutory obligations.⁵ In the wake of the ACR, SDG&E has informed the financial community that it is not likely that the company will meet its RPS goals in 2010.⁶

A. The record shows that SDG&E needs Sunrise to meet RPS mandates.

The ACR states that “according to SDG&E’s own testimony, extending the schedule in this proceeding will *not* cause SDG&E to run afoul of the RPS requirements” (ACR at 14, emphasis added). The ACR bases this dispositive finding on two quotes from SDG&E’s prepared testimony (*id.*, and ACR Attachment F, emphasis added):

With regard to the state’s RPS goals, SDG&E’s testimony in this Case states that the proposed Sunrise Project is not needed to meet its RPS goals for 2010, or even to meet goals of 33% RPS by 2020: “*Hypothetically*, given the CAISO’s open access regime, it is possible for SDG&E to meet its 2010 RPS goals without the Sunrise Powerlink.” SDG&E Opening Testimony at III-15.... SDG&E’s witness Jan Strack amplified this point in his Supplemental Testimony submitted on January 26, 2007: “The existing transmission network between the Imperial Valley and the San Diego basin, and between the Tehachapi area and the San Diego basin, is physically capable of delivering enough renewable energy to meet San Diego area load serving entities’ shares of California’s renewable energy goals for years 2010 (20% of retail sales) and 2020 (33% of retail sales).” Strack Supplemental Testimony at 64.

These two quotes, on their face, do not establish that SDG&E can meet its 2010 RPS goals without Sunrise. Nor can they be understood in isolation from the considerable testimony

⁵ Judith B. Sanders to the Hon. Dian Grueneich, July 31, 2007 (attached at Exhibit A).

⁶ SDG&E’s 2nd Quarter 2007 SEC Form 10-Q Disclosure regarding Sunrise & Renewables (August 2, 2007) states: “As a result of the revised Sunrise Powerlink EIR/EIS timeline,...the Sunrise Powerlink transmission line, if approved, will not be in operation by mid-2010 Consequently, the company believes it is unlikely that it will be able to deliver 20 percent of its projected retail demand from renewable energy sources by the end of 2010.”

before the Commission.⁷ The complete record clearly shows that a delay of Sunrise past the summer of 2010 will prevent SDG&E from meeting its 2010 RPS goals. Most significant is recent testimony, not acknowledged by the ACR, reflecting developments in the renewables marketplace. Since the above-quoted material was last served – *i.e.*, January 26, 2007 – the CAISO received over 4100 MW of new interconnection requests from projects in areas where transmission access would be directly enhanced by Sunrise.⁸ And, the responses to SDG&E’s most recent renewables RFO indicate that most of the renewable bids submitted to SDG&E that can be used to meet its 2020 RPS goals are in the Imperial Valley or Northern Mexico.⁹ Without Sunrise, these projects cannot come on-line. When examined by Judge Weissman on July 10, Mr. Avery was unequivocal:

⁷ In fact, *both* testimony excerpts recited in the ACR *are* consistent with the notion that Sunrise is needed for SDG&E to meet its RPS goals. Indeed, the ACR’s quote from Mr. McClenahan’s testimony, in context, supports the contrary proposition. This quote appears in a section headed “*SDG&E Needs the Sunrise Powerlink to Meet RPS Goals* (Vol. 2, p. III-15 (August 4, 2006)).” And, after a discussion of how “prohibitively costly” congestion affects RPS procurement, the section concludes (*id.*, p. III-16):

Finally, since many of the other areas in California where significant new renewable potential exists are also transmission constrained, the failure to authorize new transmission facilities to access this renewable potential could very well result in the overall failure of the RPS program to achieve its aggressive goals.

The omitted context of the ACR’s quote from Mr. Strack is similarly instructive. The complete record states (Supplemental Testimony (January 26, 2007) Chapter VII, p. 65, emphasis added):

While the existing transmission system is physically capable of delivering enough renewable energy from the Tehachapi area and from the Imperial Valley to the San Diego area to meet San Diego load serving entities’ shares of the state’s renewable energy goals through at least the year 2020, *the existing transmission system is incapable of doing so economically.*”

In other words, SDG&E might be able to meet its RPS goals if cost is no object. See also, August 4, 2006 Testimony, Chapter III, pp. III-13-15. Attached at Exhibits B and C are pages from the testimonies of Messrs. McClenahan and Strack, respectively, containing the full context of the testimony quoted by the ACR, with the quotes used in the ACR highlighted for convenient reference.

⁸ This number is based on the CAISO interconnect queue as of July 27, 2007, found at: <http://www.caiso.com/14e9/14e9ddda1ebf0.pdf>.

To the same effect is August 4, 2006 SDG&E Rebuttal Testimony, Avery, p. 5, lines 3-13, Brown, pp. 49, lines 14-19 and 50, lines 1-12 and Kemp pp. 2-10 (attached at Exhibit D).

⁹ Indeed, in its last two RFOs for renewables, SDG&E received no bids from the Tehachapi region. Avery, Record Transcript (“T.”) 299, lines 12-14; T. 300, lines 22-25 (attached at Exhibit E).

Without Sunrise, I do not think we have the ability to meet the goal, because the contracts that are being presented to us depend on Sunrise.¹⁰

Mr. Avery explained that there is a difference between a technical, theoretical ability to meet the RPS goal, and actually being able to achieve it (T. 302, lines 13-16):

Yes, it [the RPS goal] could be met, but because of the bids we're receiving, where those bids are located, without Sunrise, I don't think we will be able to.

In conclusion, Mr. Avery clearly states that, without the Sunrise Powerlink, SDG&E will not be able to meet its RPS goal for 2010.¹¹

In a physical standpoint, will we meet it [the RPS goals]? In my opinion, without Sunrise, we cannot (T. 302, lines 8-9).

In addition, SDG&E witness Mr. McClenahan during cross examination on July 17, 2007, detailed what the recent RFO revealed:

In 2010 with the contracts we currently have executed and approved, the deliveries are equal to about 13 percent of 2010 retail sales... [or] around 2,000 gigawatt hours [of energy deliveries] (T. 1056, lines 18-20 and 23).

Mr. McClenahan further testified that of this amount, ten percent of those 2010 retail sales are contingent on the Sunrise Powerlink being completed.¹² And, when asked by Judge Weissman whether SDG&E considers the generation from solar thermal projects out of the Imperial Valley to be deliverable without Sunrise, Mr. McClenahan responded that "most of that power cannot be delivered without a transmission upgrade."¹³

¹⁰ For example, See T. 299, lines 23-25 (attached at Exhibit F). Indeed, Mr. Avery testified that, in its last two RFOs for renewables, SDG&E received *no bids* from the Tehachapi region. T. 299, lines 12-14; T. 300, lines 22-25 (attached at Exhibit E).

¹¹ Further, contracts such as Stirling, which has already been approved by the Commission and which SDG&E plans to utilize to meet its 2010 RPS goal, are conditioned on the construction of the Sunrise Powerlink (Resolution E-3965, December 5, 2005).

¹² T. 1057, line 4, McClenahan (attached at Exhibit G).

¹³ T. 1115, lines 21-28; 1116, lines 1-15 (attached at Exhibit H).

Contrary to the ACR's suggestion, SDG&E has maintained that Sunrise is necessary for SDG&E's RPS compliance since its December 14, 2005 Application, and it reaffirmed that position in its August 4, 2006 Amended Application. In his testimony supporting both applications, SDG&E's policy witness Jim Avery referenced a California Energy Commission ("CEC") report, addressing the project that was to be called Sunrise, which found that:

*Without this proposed project, it is unlikely that SDG&E will be able to meet the state's RPS goals, ensure system reliability, or reduce RMR and congestion costs. The Energy Commission therefore believes that the proposed project offers significant benefits and recommends that it move forward expeditiously so that the residents of San Diego and all of California can begin to realize these benefits by 2010.*¹⁴

In sum, the record shows that, beginning with the December 2005 application, SDG&E has consistently testified in this case that it needs Sunrise to meet its RPS goals. The recent rush of applications to the CAISO interconnection queue from the Imperial Valley and neighboring areas, and the results from SDG&E's 2007 renewables RFO, confirm that SDG&E cannot meet its RPS goals without Sunrise. Given this record, the ACR should be clarified to remove the findings on page 14 to the effect that SDG&E can meet its RPS requirements without Sunrise. While SDG&E will do everything it can (within the limitations of prudence) to meet the goals, the evidence shows that Sunrise is necessary for timely compliance.

B. SDG&E and California need Sunrise in 2010 to maintain reliability.

SDG&E has maintained all along that it could meet its reliability need without Sunrise in 2010, albeit in an undesirable and unnecessary fashion. But in finding that SDG&E can satisfy its 2010 reliability shortfall without Sunrise, the ACR overlooks the fact that SDG&E has

¹⁴ Strategic Transmission Investment Plan, Prepared in Support of the CEC 2005 Integrated Energy Policy Report Proceeding (04-IEP-1K), Final Committee Report, adopted November 21, 2005, at 6; see also *id.*, at 65, *quoted at* Avery, Application Vol. 2, at I-10 (Dec. 14, 2005) (attached at Exhibit I); Amended Application, Vol. 2, at I-13-14 (August 4, 2006) (attached at Exhibit J).

testified that it most likely must commit to increments of on-system gas turbine generation to compensate for a Sunrise delay.¹⁵ The CAISO's July 31 letter confirms (Exhibit A hereto) that Sunrise is needed in 2010 for reliability.

Moreover, the record shows that reliability fixes needed to bridge a delay in Sunrise come at a cost – both to the environment and to consumers' bills. As to the former, Mr. Avery has testified that adding on-system generation necessarily displaces a like amount of renewables, with all of the attendant RPS and GHG implications of such displacement.¹⁶ And, as shown in the next section, there is an economic cost to using interim reliability fixes as well.

C. Delaying Sunrise costs consumers.

The ACR (p. 15) relies on a single selection from CAISO testimony to find that the “optimal” online date for Sunrise is 2013. The ACR cites only one CAISO scenario which was intended to address a UCAN economic analysis that completely ignores the reliability deficiency. In the cited testimony, the CAISO asserts that this single scenario tends to understate the consumer costs of delay.¹⁷ Indeed, the CAISO's July 31 letter confirms this view of the CAISO testimony, and states that 2010 is the optimal year for Sunrise operations to commence. CAISO Rebuttal Testimony (conformed version) p. 38, line 5 and Exhibit A.

In fact, the sooner Sunrise is placed in service, the better off consumers will be (Strack rebuttal at 18-24 and figure 2), since delays in the early years will cost customers well over \$100

¹⁵ Avery T. 330, lines 11-21; June 15, 2007, SDG&E Rebuttal Testimony, Avery, p. 3. Other possible fixes include an extension of the South Bay RMR contract by the CAISO, which is uncertain at best, even if Sunrise is delayed. June 15, 2007 Rebuttal Testimony, Brown, p. 11, lines 13-16. The feasibility of such fixes assumes that the conservative load and reliability forecasts upon which the 2010 date is based are not exceeded (attached at Exhibit K).

¹⁶ SDG&E Rebuttal Testimony, Avery, p. 3, lines 8-18 (attached at Exhibit L).

¹⁷ The CAISO testimony that 2013 is economically optimal only if escalation is substantially below historic levels and the costs of covering the reliability gap are ignored. *See also*, Strack rebuttal at p. 19, lines 11-14. The CAISO's Rebuttal Testimony p. 30, lines 12-14 and at p. 31 (as its July 31 letter confirms), states that “[its] revised capacity deficiency date remains at 2010” (attached at Exhibit M).

million per year. Finally, a substantial volume of testimony shows the adverse cost impact of importing renewables without Sunrise. For example, SDG&E has testified that “[i]f forecasted congestion costs are high, SDG&E may be forced to replace what would otherwise be attractively priced renewable resources with resources from other areas that may be higher priced and may not result in the best overall fit for resources within SDG&E’s renewable portfolio mix.”¹⁸

In sum, the schedule delay adversely affects fundamental state energy policy and prejudices the renewables compliance, economics and reliability issues. For this reason, we respectfully request the Assigned Commissioner to grant clarification and, as discussed below, modify the ACR’s schedule.¹⁹

III. THE COMMISSION CAN ADEQUATELY ANALYZE THE “NEWLY DISCLOSED ENVIRONMENTAL INFORMATION” WITH ONLY A ONE MONTH DELAY

SDG&E is committed to cooperating with the Energy Division and responding as soon as possible to the data requests it has already issued as a result of the ACR. However, as discussed above, the adverse effects on the public interest arising from a delay in Sunrise are compelling. We believe, and show below, that the Commission has enough information already before it to determine that the “newly disclosed environmental information” is in fact information that is in the record, has already been reviewed by the Energy Division, requires no further CEQA/NEPA

¹⁸ January 26, 2007 Supplemental Testimony, p. 59, August 4, 2006 Testimony, pp. III-15-16 and December 14, 2005 Testimony, p. V-35. Of course, this assumes that sufficient resources are available from other areas at any price – and recent events suggest that such resources are not in fact available. For example, in its last two RFOs for renewables, SDG&E received no bids from the Tehachapi region. T. 299, lines 12-14, Avery; T. 300, lines 22-25, Avery (attached at Exhibit N).

¹⁹ In this regard, the ACR makes the dispositive findings affecting SDG&E’s substantive rights on renewables compliance, economics and reliability, without giving SDG&E notice or the opportunity for cross examination, in violation of SDG&E’s due process rights.

analysis as part of the project, and that the project schedule can be adjusted to minimize delays to one month.

A. There is already sufficient information in the record in this case to determine whether the “newly disclosed information” reveals “related actions.”

The ACR finds that “newly discovered environmental information” requires additional environmental review, and orders a revised procedural schedule to permit analysis of the “new information.” As described below, the record, as supplemented by recent responses to Energy Division data requests, allows an early determination on project impact.²⁰

1. The record contains ample evidence on expandability.

SDG&E has consistently stated in this proceeding that the potential expandability of this project was an important project objective. Expandability as a project objective was first mentioned in the August 2006 PEA, Chapter 2, Section 2.2.4 at p. 2-21 under the section entitled Project Objectives. Objective 2 states:

Provide transmission facilities with a voltage level and transfer capability that (a) allows for prudent system expandability to meet both anticipated short-term (2010) and long-term (2015 and beyond) load growth through a total San Diego area import capability of at least 4,200 MW (all lines in service) and 3500 MW (under G-1/N-1 contingency conditions) and (b) supports regional expansion of the electric grid.

The PEA at Chapter 3, section 3.1, p. 3-1 under Project Objectives, Objective 2 repeats this project objective. Expandability, like the other objectives in the PEA, was used to develop and compare the various project alternatives.²¹ Numerous SDG&E responses to Energy Division

²⁰ Attached at Exhibit 1 is a chart that shows the chronology of when information pertaining to the ACR’s “newly discovered items” was provided to the Commission.

²¹ On October 13, 2006, SDG&E again presented expandability as one of the project objectives in a CPUC-ordered workshop. Indeed, the Commission itself specifically recognized the expandability aspect of this project in this docket in its September 15, 2006, Notice of Preparation – Notice of Public Scoping Meetings at pp. 3, 12 (attached at Exhibit O).

data requests also have addressed expandability.²² These responses clearly indicate that the expandability objective for the Sunrise Powerlink project includes options at either 230 kV or 500 kV. In addition, SDG&E's purpose and need prepared testimony discusses expandability.²³ Included was discussion of the "Full Loop" alternative – a conceptual 500 kV interconnection of Sunrise with SCE at Serrano – that could include interconnection with the proposed LEAPS pumped storage project.²⁴ Finally, SDG&E recently provided substantial information to the Energy Division on expandability in response to Data Request #15. As set forth in the response, SDG&E has contemplated expandability as a project objective since the inception of this project and views it as part of prudent planning for future facilities.

In sum, the Commission has information with respect to expandability that shows (1) the Sunrise preferred route offers the potential of future interconnection to Southern California Edison ("SCE") at 500 kV or 230 kV; (2) the Central substation design provides for future additional circuits and transformers at 500 and/or 230 kV; (3) no route or plan of service for a future interconnection with SCE or for future circuits at the proposed substation have been identified; and (4) other routes under consideration do not offer the future expandability potential

²² See SDG&E's data request responses to November 17, 2006 data request 1, ALT-20; response to December 13, 2006 data request 4, ALT-63; and response to July 8, 2007 data request 15, ALT-85 (also submitted as attachments to Energy Division Data Request Response # 15, modified) (attached at Exhibit P).

²³ SDG&E's response to Energy Division Data Request # 15 (modified) discusses the Full Loop alternative in detail and collects references from the evidentiary record to date on this concept and on expandability generally (attached at exhibit R). *See also*, Amended Application, Vol. 2 at pp. VI-3-5,12-14 (August 4, 2006) (Full Loop); p. VI-5 (a "second SWPL" alternative lacks expandability). The CAISO's CSRTP report ((July 2006) specifically cites the potential for future expandability as a "non-quantified benefit of Sunrise (p. 68, Appendix I-1 to the August 4, 2006 Amended Application). *See also*, January 26, 2007, CAISO Testimony, Part I, p. 52, lines 18-21. And, SDG&E's December 14, 2005 application included testimony in the "Purpose and Need" report, which discussed expandability of Sunrise in several contexts: the "full loop: interconnection with SCE (at pp. II-3, VI-8-9, Appendix II, Figure II-1, Appendix VI-iv), as one of the economic scenarios at V-29), and the expandability of the Central substation at 500 and 230 kV (p. II-4) (attached at Exhibit Q).

²⁴ SDG&E's testimony has specifically discussed study of the potential to complete an interconnection from Central to SCE's Serrano substation. – Serrano is one of the 500 kV termini proposed for interconnection with the LEAPS pumped storage project. Amended Application, Vol 2. pp. VI-3-5,12-14 (August 4, 2006), Application, Vol 2 at pp. II-3, VI-8-9, Appendix II, Figure II-1, Appendix VI-iv (December 14, 2005). *See also*, Energy Division Data Request # 15 (modified), especially ¶ c., p. 4 (attached at Exhibit R).

of the preferred route. SDG&E has just provided a data request response to the Energy Division that summarizes the foregoing information with respect to expandability.²⁵

2. The record contains ample evidence on a potential renewables substation.

The original December 14, 2005 CPCN application (Vol. 2 at IV-12-13) describes how SDG&E's 2005 Transmission Ranking Cost Report ("TRCR") shows that a 500 kV tap will be constructed somewhere along SWPL "to accommodate renewable resource potential in the eastern portion of San Diego County." The economics testimony included a sensitivity case for evaluating the economic benefits of the Sunrise Powerlink comprising "a 230 kV trunk line and a new 500/230 kV substation south of Boulevard."²⁶ Finally, SDG&E observes that Sunrise would free up capacity on SWPL such that renewable resources in eastern San Diego County could interconnect to SWPL (*id.*, Appendix VI-iv).²⁷

In addition, the need for a substation and transmission facilities to interconnect renewable wind generation to SDG&E's existing transmission system in Southeast San Diego area has been described by SDG&E in other Commission dockets. *See*, SDG&E's Short Term Renewable Procurement Plan (R.04-04-026, filed Dec. 22, 2005) at p. 6, and the Supplement to the Long Term Procurement Plan of SDG&E for the Renewable Portfolio Standard Program (R.04-04-026, filed Dec. 6, 2005) pp. 12-13. Both of these documents reference development of

²⁵ SDG&E Response to CPUC Energy Division Data Request #15, modified (August 6, 2007) (attached at Exhibit R, without data response appendices).

²⁶ *Id.*, Vol. 2 p. V-30 (attached at Exhibit S). Boulevard is just northwest of Jacumba in southeastern San Diego County near the Imperial County border.

²⁷ *See also id.*, pp. IV-11-12, where the need for more transmission to develop renewable potential in eastern SD County, La Rumorosa, and Borrego is discussed, and August 4, 2006 Testimony, p. III-4, regarding the need for transmission to collect renewable generation from the Crestwood/Boulevard area by 2010 (attached at Exhibit T).

transmission facilities to collect wind generation in Southeast San Diego area. SDG&E's TRCRs to the Commission contain similar references.²⁸

In sum, the information before the Commission shows that the wind generation potential and developer interest in Eastern San Diego and just across the border in Mexico has caused SDG&E to evaluate a possible substation interconnecting to SWPL in that area. SDG&E's studies of this potential substation have been conceptual in nature and no plan of service has yet been prepared to accommodate the interconnection of new wind generation.²⁹ Such studies have not yet been performed for the purpose of developing cost estimates.³⁰ No substation site has been selected.³¹ SDG&E's Transmission Planning Group has examined other alternative means of accessing this new wind generation.³² No firm commitment to building a new substation by SDG&E has been made.³³ Further, the renewables substation is not a "connected action" to Sunrise because the initial phase is independent of whether Sunrise is ultimately constructed. SDG&E has collected and summarized the foregoing information and provided it in response to a recent Commission Energy Division data request (No. 17).³⁴

²⁸ "Cluster 2 generation was modeled at a new 500 kV substation looped into the existing Imperial Valley – Miguel 500 kV line. The substation was modeled at the midpoint of the line." TRCR (Aug. 22, 2005) at p. 12; and "Cluster 2 generation was modeled at a new 500 kV substation looped into the existing Imperial Valley – Miguel 500 kV line. The substation was modeled at the midpoint of the line." TRCR (Mar. 15, 2006) at p. 11.

²⁹ At least one such study has been performed in the context of the CAISO's Large Generator Interconnection Procedure. T. 1130, lines 13-23 (McClenahan) (attached at Exhibit U).

³⁰ T. 342 lines 3-5, Brown, T. 525 lines 13-16, Brown, T. 526 lines 10-19, Brown, T. 527, lines 8-12, Brown, T. 528, lines 20-24, Brown, T. 970 lines 5-8, Yari (attached at Exhibit V).

³¹ T. 964-965, lines 20-28 and line 1, Yari (attached at Exhibit W).

³² Amended Application, Vol. 2. p. III-3 (McClenahan); T. 1120, lines 8-18, McClenahan (attached at Exhibit X).

³³ T. 964 lines 6-10, Yari (attached at Exhibit Y).

³⁴ SDG&E Response to CPUC Energy Division Data Request #17, served August 6, 2007 (attached at Exhibit Z; without data response appendices).

3. The record contains ample evidence on how Sunrise affects potential renewable development.

SDG&E has consistently stated that development of new renewable generation in Imperial Valley depends on Sunrise.³⁵ Renewable developer responses to SDG&E's RFOs reflect that most of the renewable projects contemplate interconnection to the Imperial Valley substation, the SWPL west to the Miguel substation, and the Miguel substation.³⁶ Linda Brown testified to the remarkable recent surge of renewable interconnection requests that Sunrise could facilitate.³⁷ Both Ms. Brown and Mr. McClenahan testified that Sunrise is needed to facilitate the development and delivery of additional renewables to CAISO customers.³⁸ But there are only two specific projects that are contractually dependent on Sunrise.³⁹ SDG&E identified these in its PEA: Stirling Energy Systems and Esmeralda Truckhaven Geothermal. PEA, pp. 2-16, 11-2.⁴⁰ In sum, the record shows that Sunrise will facilitate renewable generation, that substantial renewable development in the Imperial Valley will require Sunrise or a similar interconnection to the CAISO grid, and that Sunrise is not specifically premised on any one project or projects.

³⁵ December 14, 2005 Application, Vol. 2 at pp. I-13, IV-11-16, V-35, Appendix VI-iv; August 4, 2006 amended application, Vol. 2, at pp. I-1, III-5-6 (development of geothermal and other technologies in the IV require new transmission); Avery June 15, 2007 Rebuttal Testimony at 5-8 (attached at Exhibit AA).

³⁶ T. 513-514, lines 26-28 and 1-14, Brown (attached at Exhibit BB).

³⁷ June 15, 2007, Rebuttal Testimony, Brown, pp. 49-50, lines 19 and 1-4 (attached at Exhibit CC).

³⁸ T. 695-696, lines 18-28 and 1-13, Brown; T. 1115-1116 lines 21-28 and 1-15, McClenahan. In addition, SDG&E submitted expert testimony that "the improved access to markets enabled by the Sunrise Powerlink will increase the range and volume of financially-viable projects that could be developed." Kemp Rebuttal, p. 4 (attached at Exhibit DD).

³⁹ T. 207, lines 10-12, Avery (attached at Exhibit EE).

⁴⁰ The Stirling contract, including the conditions precedent concerning Sunrise, was approved by the Commission (Resolution E-3965, December 15, 2005).

IV. THE “NEWLY DISCLOSED” ITEMS SHOULD NOT REQUIRE FURTHER CEQA/NEPA ANALYSIS AS PART OF THE PROJECT.

As discussed in the prior section, there is already substantial information before the Commission indicating that there are no firm plans for projects related to expandability, a potential renewables substation, or Imperial Valley renewable development that have specific timing, locations or design details to contribute to any meaningful analysis in the EIR/EIS process. SDG&E is confident that this conclusion will be reinforced with further investigation by the Energy Division. For ease of review, we have attached at Exhibit 1 a chronological listing of all information sources currently in the record or in data responses that address expandability, the renewables substation, and renewables development in Imperial Valley. Given these facts, based on the law and Commission precedent as described below, expandability, the renewables substation, and Imperial Valley renewable development as related to Sunrise will not require further environmental review as “related actions” in this proceeding.

A. Uncertain “Projects” Are Not “Connected Actions”

Although the Sunrise Powerlink would encourage the development of renewable energy resources such as wind, solar and geothermal, there are only two specific resources that may be considered potentially linked to or dependent upon Sunrise. SDG&E identified these in its PEA: Stirling Energy Systems and Esmeralda Truckhaven Geothermal. PEA, pp. 2-16 and 11-2. But there are no other identifiable projects with such specific links to Sunrise with respect to expandability, a potential renewables substation, or renewable development generally. Because the electric transmission system is inherently a network, one could characterize the addition of any future generation or transmission as “connected” to a given project on the network. But, as shown below, that does not mean that all such connections to the network must be analyzed as part of the environmental review of this project.

B. Unspecified Renewable Projects Need Not Be Analyzed as Cumulative Impacts

The potential future expansion, uncertain renewable development, and a potential renewables substation need not be analyzed as cumulative impacts in Sunrise. It is unknown whether or when any of these ultimately will be implemented, as there are no firm plans at this time. The discussion of cumulative impacts “should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute” CEQA Guidelines § 15130. Here, there are no other firm “projects” that constitute a reasonably foreseeable future project – a component of the standard for evaluating cumulative impacts under CEQA. *Id.* Accordingly, the Commission should use the “standards of practicality and reasonableness” and focus its cumulative analysis on concrete expansion, and any renewable development that rises to the level of an actual “project.” As discussed above, SDG&E properly identified such issues at the time of the PEA in accordance with the Commission’s and all legal requirements.

Reasonably foreseeable future projects for cumulative impacts analysis should be approached consistent with CEQA guidelines, CEQA regulations, and relevant case law. Unspecified renewable energy development is speculative for purposes of the environmental review process. CEQA Guidelines § 15145.⁴¹ This is reinforced by recent Commission precedent.

In prior transmission CPCN applications, the Commission has not analyzed potential resource development as cumulative impacts. Most recently, in SCE’s Tehachapi project

⁴¹ The NEPA perspective is similar; the Commission need not evaluate the unspecified renewable development, a renewables substation and expandability in the Sunrise environmental review process. Pursuant to NEPA and related federal regulations, future actions are reasonably foreseeable where “they have already occurred, are ongoing, are funded for future implementation, or are included in firm near-term plans.” See *Council on Envtl. Quality, Considering Effects Under the National Environmental Policy Act 19* (Jan. 1997), available at <http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm> (“Considering Cumulative Effects”).

EIR/EIS, the Commission did not analyze any wind farm projects that would be triggered by that new transmission line. Instead, wind development was very briefly discussed in the context of the purpose and need for the project, but not in any impact assessment.⁴² The justification for that transmission project was deliverability of wind energy. The Commission should take the same approach with the environmental analysis here.

In sum, uncertain future activities not currently proposed for approval and that are not reasonably foreseeable consequences of the proposed project need not be included in the description or analyzed in the EIR. Further analysis by the Energy Division will confirm that the three items the ACR characterizes as “newly disclosed environmental information” are indeed such uncertain future activities.

V. THE ACR SCHEDULE SHOULD BE CLARIFIED

As noted above, there is already sufficient information to support a determination that the “newly disclosed” items are not “related actions” under CEQA/NEPA. We expect that the Energy Division’s analysis will quickly confirm this. In such circumstances, the five month delay anticipated by the ACR is not necessary, and to leave the schedule unclarified will send the wrong signal to stakeholders and the public. SDG&E will make every effort to cooperate with the Energy Division and to provide all information requested on an expedited basis so that there will be legally sufficient information available in a timeframe that would allow the release of the

⁴² Southern California Edison’s Antelope Transmission Project, Segments 2 & 3, Final Environmental Impact Report, A.04-12-008 (Dec. 2006) – *See, e.g.*, “The proposed Project would provide electric transmission capacity for wind energy resources that are expected to develop in the Tehachipi area of southeastern Kern County... a lack of transmission capacity currently limits new wind energy installations. The proposed Project would be capable of transporting power from multiple wind projects in order to utilize the (*footnote continued onto next page...*) (*...footnote continued from previous page*) Tehachipi area’s potential for generation of wind energy.” (p. ES-1) Also, “Segments 2 and 3 provide transmission capacity for potential future development of unspecified wind energy projects in the Tehachipi Wind Resource Area...[w]ithout this transmission capacity, Tehachipi area wind energy projects that are scheduled to go online within the next few years, such as the PdV Project, cannot deliver additional wind energy to customers through Antelope Substation” (p. A-10).

draft EIR/EIS much sooner than provided for in the ACR. Therefore, SDG&E asks that the ACR be clarified to provide the expectation that the delay should only be one month, and that the remaining procedural schedule be modified accordingly.

VI. CONCLUSION

As stated in our preamble, SDG&E shares the Commission's desire for an accurate and timely record that meets the requirements of CEQA and NEPA. Thus, for the reasons set forth above, SDG&E asks for expeditious clarification of the ACR (1) to remove the finding that SDG&E can meet its RPS 2010 goals without Sunrise, and (2) to state the expectation that the schedule delay to accommodate additional environmental review should only be one month, and that all other Sunrise procedures should proceed on that basis.

Respectfully submitted,

/s/ E. GREGORY BARNES

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August 16, 2007

EXHIBIT LIST

Exhibit I	Chronologic Listing of Selected Public Information Re: (1) Expandability, (2) Renewables Development & (3) Renewables Substation
Exhibit A	Judith B. Sanders Letter to the Hon. Dian Grueneich, July 31, 2007
Exhibit B	McClenahan, Chapter III, pp. III-15-16 (August 4, 2006)
Exhibit C	Strack, Chapter VII, p. 65 (January 26, 2007); McClenahan, Chapter III, pp. III-13-15 (August 4, 2006)
Exhibit D	SDG&E Rebuttal Testimony, Avery p. 5; Brown pp. 49-50; Kemp pp. 2-10 (June 15, 2007)
Exhibit E	Transcript p. 299, lines 12-14; p. 300, lines 21-25, Witness Avery
Exhibit F	Transcript p. 299, lines 23-25, Witness Avery
Exhibit G	Transcript p. 1057, line 4, Witness McClenahan
Exhibit H	Transcript pp. 1115-1116, Witness McClenahan
Exhibit I	Avery, Chapter I, p. I-10 (December 14, 2005)
Exhibit J	Avery, Chapter I, pp. I-13-14 (August 4, 2006)
Exhibit K	Transcript p. 330, lines 11-21; SDG&E Rebuttal Testimony, Avery p. 3; SDG&E Rebuttal Testimony, Brown p. 11, lines 13-16.
Exhibit L	SDG&E Rebuttal Testimony, Avery p. 3 (June 15, 2007)
Exhibit M	SDG&E Rebuttal Testimony, Strack p. 19; CAISO Rebuttal Testimony pp. 30-31 (June 15, 2007)
Exhibit N	Transcript pp. 299-300, Witness Avery; SDG&E Supplemental Testimony, Strack p. 59 (January 26, 2007); Amended Initial Testimony, Chapter III, pages III-15-16 (August 4, 2006); Initial Testimony, Chapter V, p. V-35 (December 14, 2005)

Exhibit O	Notice of Preparation/Notice of Public Scoping Meetings for an Environmental Impact Report/Environmental Impact Statement (September 15, 2006)
Exhibit P	SDG&E's Data Request Responses to November 17, 2006 data request 1, ALT-20; response to December 13, 2006 data request 4, ALT-63; and response to July 8, 2007 data request 15, ALT-85
Exhibit Q	SDG&E Testimony, Chapter VI, pp. VI 3-5, 12-14 (August 4, 2006); Amended Application, p. 68, Appendix I-1 (August 4, 2006); CAISO Testimony Part I, pg. 52; Application pp. II-3-4, VI-8-9, V-29, Appendix II, Figure II-1, Appendix VI-iv (December 14, 2005)
Exhibit R	SDG&E response to Energy Division No. 15, modified (without attachments, August 6, 2007).
Exhibit S	Strack, Volume 2, p. V-30 (December 14, 2005).
Exhibit T	McClenahan, Volume 2, pp. IV-11-12 (December 14, 2005); McClenahan, Chapter III, p. III-4 (August 4, 2006)
Exhibit U	Transcript, p. 1130, Witness McClenahan
Exhibit V	Transcript pp. 342, 525-258, Witness Brown; Transcript p. 970, Witness Yari
Exhibit W	Transcript pp. 964-965, Witness Yari
Exhibit X	McClenahan, Chapter III, p. III-3 (August 4, 2006); Transcript p. 1120, Witness McClenahan
Exhibit Y	Transcript p. 964, Witness Yari
Exhibit Z	SDG&E response to Energy Division Data Request No. 17 (without attachments, August 6, 2007)
Exhibit AA	Application, Volume 2, pp. I-13, IV-11-16, V-35, Appendix VI-iv (December 14, 2005); Amended Application, Volume 2, pp. I-1, III-5-6 (August 4, 2006); Rebuttal Testimony, Avery pp. 5-8 (June 15, 2007)
Exhibit BB	Transcript pp. 513 – 514, Witness Brown
Exhibit CC	SDG&E Rebuttal Testimony, Brown pp. 49-50 (June 15, 2007)

Exhibit DD Transcript pp. 695-696, Witness Brown; pp. 115-1116; Kemp Rebuttal
Testimony p. 4.

Exhibit EE Transcript p. 207, Witness Avery

EXHIBIT 1

Exhibit 1 - Chronologic Listing of Selected Public Information Re: (1) Expandability, (2) Renewables Development & (3) Renewables Substation

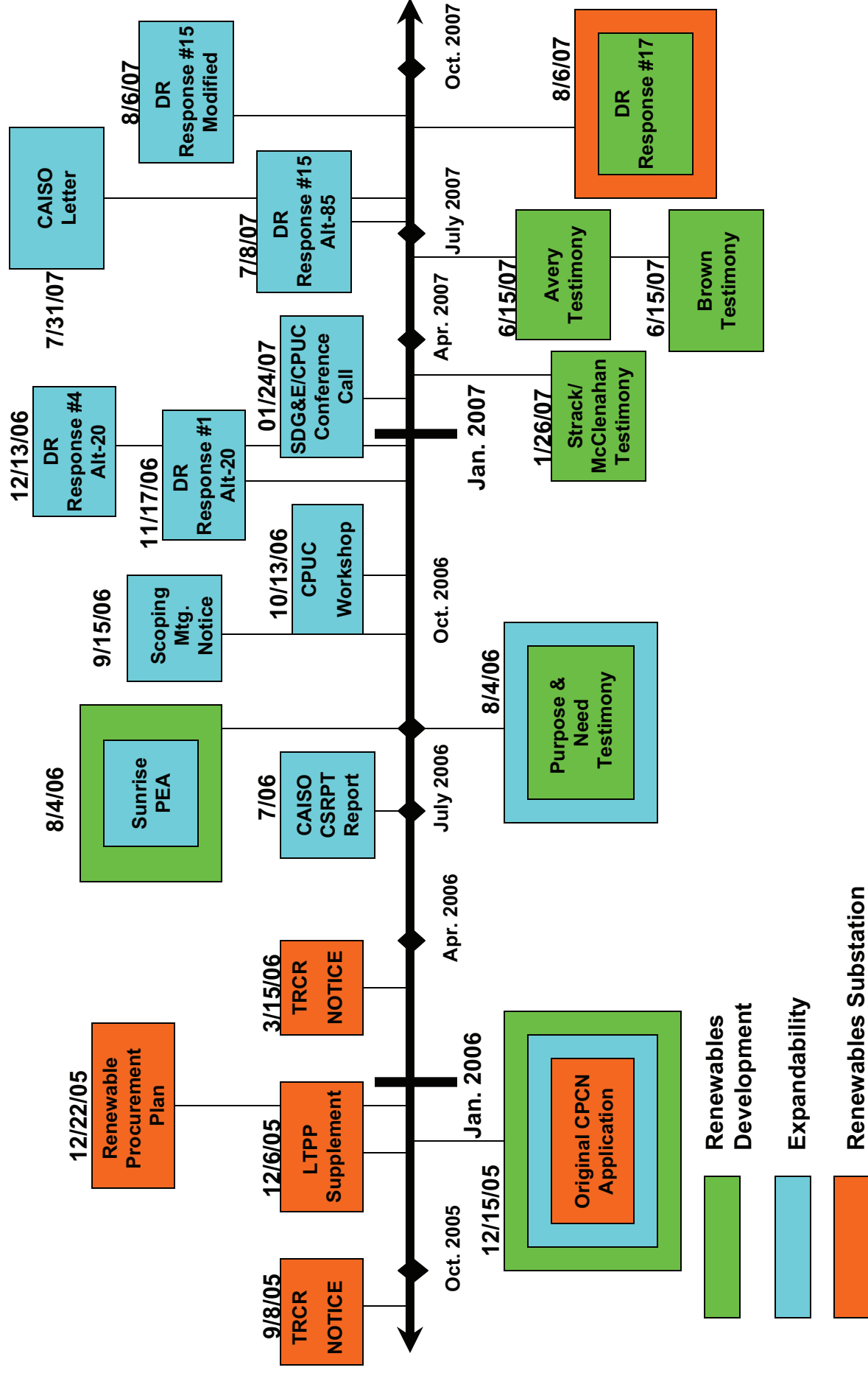


EXHIBIT A

July 31, 2007

Dian M. Grueneich, Commissioner
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102

Re: Application 06-08-010; Application of San Diego Gas & Electric Company for a certificate of public convenience and necessity for the Sunrise Powerlink Transmission Project

Dear Commissioner Grueneich:

I am writing to express the California Independent System Operator Corporation's concern about a proposed delay in the Sunrise Powerlink application proceeding. In addition, I wish to clarify some assertions in the July 24, 2007 Assigned Commissioner's Ruling that relate to the CAISO's assumptions and conclusions.

As you know, the Assigned Commissioner's Ruling (ACR) extends the procedural schedule for the Sunrise proceeding by nearly seven months so that "newly disclosed environmental information" can be considered in the joint environmental impact report and environmental impact study (EIR/EIS) currently being prepared by the Commission and the United States Bureau of Land Management. Prior to the issuance of the ACR, the final EIR/EIS was set to be issued on November 20, 2007. This date has now been extended to June 6, 2008. This change to the procedural schedule delays the issuance of the Commission decision regarding the Sunrise project and, as the ACR acknowledges, will likely cause the 2010 in-service date for an important new transmission line to slip.

As the Commission is well aware, the CAISO has been actively participating in this proceeding and has conducted an in-depth independent analysis of the Sunrise project. Although the CAISO's witnesses have not yet testified orally in the proceeding, their analysis and written testimony demonstrates a reliability need in SDG&E's service territory beginning in 2010, and concludes that this need will be remedied by the Sunrise project.¹

Relying, in part, on excerpts from the CAISO's testimony, the ACR concludes that the delay "is unlikely to affect in a significant way the achievements of the goals identified by SDG&E in pursuing this project" (ACR at 15 – 16). The ACR further suggests that the project can be delayed to at least 2013, if not later. The CAISO disagrees. With respect to delaying the in-service date, the ACR cites to CAISO testimony addressing net economic benefits associated with a 2010 in-service date, but did not consider the CAISO's reliability concerns. As discussed above, the CAISO's reliability analysis shows a resource deficiency beginning in 2010.

¹ See CAISO June 15, 2007 Rebuttal (conformed version), 37-40.

Furthermore, in addressing the economic impacts associated with deferring the in-service date for the Sunrise project, the CAISO's testimony provides that a 2010 in-service date produces the highest net benefits for ratepayers under cost escalation scenarios that the CAISO believes to be realistic. For example, based on information from the Edison Electric Institute and other sources, the CAISO believes that SDG&E could experience cost escalation rates substantially in excess of the 5.5% rate noted in the ACR, and that a 9% cost escalation rate is an equally plausible case.²

In addition, the CAISO's testimony points out that delaying the in-service date for the Sunrise project will exacerbate uncertainties associated with the development of much-needed new renewable resources and the cost of delivering such resources to SDG&E.³ Thus, under likely cost escalation assumptions, the CAISO has found that the net economic benefits of Sunrise are greatest in 2010.

The CAISO understands and supports the Commission's desire to create a complete and full record in this proceeding, but remains very concerned about the impact of delay. The CAISO has independently determined that there is a reliability need for the Sunrise project as early as 2010, and firmly believes that it is in the best interest of ratepayers for the project to be completed by that date.

Because the Commission's decision in this case will have a direct impact on how the CAISO does its job and meets its statutory obligations, the CAISO urges the Commission to complete its environmental review as quickly as possible so that a final decision in this matter can be reached in time to meet SDG&E's 2010 reliability need.

Very truly yours,

/s/Judith Sanders

Judith Sanders
Counsel

cc: President Michael R. Peevey
Commissioner John Bohn
Commissioner Rachelle Chong
Commissioner Timothy A. Simon
Administrative Law Judge Steven A. Weissman
Service List - Application 06-08-010 (via email only)

² Id., 63.

³ Id., 65-67.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served, by electronic and U.S. Mail, a copy of the Notice Of Ex Parte Communication By The California Independent System Operator to all parties in Docket Number A06-08-010.

.

Dated at Folsom, CA, on this 3rd day of August, 2007.

/s/Susan L. Montana

Susan L. Montana

916-608-7021

smontana@caiso.com

EXHIBIT B



CHAPTER III

RENEWABLE ENERGY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: ~~Vincent D. Bartolomucci~~

assumptions.¹⁷ The final section shows SDG&E's net short differential between these assumptions and projected annual renewable energy resource production from the contracts signed to date. That is, it shows what SDG&E would likely procure subtracting projected contracted for deliveries compared to the assumptions made in SDG&E's Renewable Plan assumptions, in order to achieve a 20% goal in 2010.

In sum, based on experiences in renewable procurement to date, it appears that the significant portion of economic new renewable resource opportunities are located on the eastern edge of SDG&E's service territory and in Imperial County. Below is a synopsis of how the Sunrise Powerlink will be integral in to accessing these opportunities.

C. SDG&E Needs the Sunrise Powerlink to Meet RPS Goals

Hypothetically, given the CAISO's open access regime, it is possible for SDG&E to meet its 2010 RPS goals without the Sunrise Powerlink. But the state's renewables mandate does not call for meeting the RPS goals at all costs. Given the high likelihood of prohibitively costly congestion, and the accompanying chill on renewable development without the Sunrise Powerlink, the Sunrise Powerlink is necessary for SDG&E to meet its RPS goals in a cost effective manner. Further should the state adopt future goals that increase the renewable target beyond 20% to possibly 33%, the Sunrise Powerlink would play a critical role in allowing SDG&E to expand plan to meet these expanded goals.

If Sunrise is not approved or developed, a strong likelihood exists that accessing new renewable resources in Imperial Valley will result in increased congestion costs. In addition, if forecasted congestion costs are high, SDG&E

¹⁷ See SDG&E's Short-Term and Long-Term Renewable Procurement Plans filed with the Commission on April 15, 2005 in R.04-04-003.

may be forced to replace what would otherwise be attractively priced renewable resources with resources from other areas that may be higher priced and may not result in the best overall fit for resources within SDG&E's renewable portfolio mix. SDG&E cannot state for certain what the likely outcome would be if such a scenario were to occur, however, based on offers received (and rejected) in past solicitations, SDG&E's conclusion is that the above would appear likely. Finally, since many of the other areas in California where significant new renewable potential exists are also transmission constrained, the failure to authorize new transmission facilities to access this renewable potential could very well result in the overall failure of the RPS program to achieve its aggressive goals.

This concludes this chapter.

EXHIBIT C



SUNRISE POWERLINK

CHAPTER VII

SUPPLEMENTAL TESTIMONY



Application No.: A.06-08-010

Exhibit No.: _____

Date: January 26, 2007

Witnesses: Linda P. Brown (Reliability)

Jan Strack (Economics)

10.0 million MWh amount that could reasonably be imported into the San Diego area assuming the average annual renewable energy capacity factor of 40% as described above. In addition, there is already some renewable energy production within the San Diego area so the cushion is actually larger.

While the existing transmission system is physically capable of delivering enough renewable energy from the Tehachapi area and from the Imperial Valley to the San Diego area to meet San Diego area load serving entities' shares of the state's renewable energy goals through at least the year 2020, the existing transmission system is incapable of doing so economically.

Renewable energy sources must compete with other sources of electric energy for access to congested CAISO transmission facilities. While renewable energy sources would almost always prevail in this competition—because their variable operating costs would almost always be less than the variable operating costs of competing gas-fired generation sources—and would therefore not be curtailed, they would have to pay the marginal costs of congestion. In addition, when there is congestion on the CAISO grid, prices consumers must pay for energy are increased because the CAISO is forced to ramp-up less efficient gas-fired generation within the California load centers in order to manage the congestion. These inefficient gas-fired generators set the market clearing price for energy that all consumers must pay.

The economic studies conducted for the Sunrise Powerlink indicate that because the addition of the new line increases the all-lines-in-service import capability into the San Diego area and alters powerflows elsewhere on the grid, it reduces congestion costs that must otherwise be paid to deliver renewable energy across congested lines and interfaces, and reduces the market clearing prices that will otherwise be paid by consumers within the CAISO control area. Accounting for all impacts, these cost reductions exceed—on a



CHAPTER III

RENEWABLE ENERGY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: ~~Vincent D. Bartolomucci~~

wind facilities in the Imperial Valley area and either bid these projects into future utility RFOs or seek buyers for the energy produced by these facilities.

As already mentioned, SDG&E issued another renewable RFO on July 17, 2006 seeking offers for renewable products that can commence deliveries in the 2008, 2009 and 2010 timeframe. SDG&E also anticipates issuing a long-term all-source RFO later this year that would seek energy and capacity products for the 2010 timeframe and beyond. SDG&E expects that these RFO are likely to elicit additional offers for projects located in the Imperial Valley area.

b. SDG&E RFO objectives

SDG&E will continue to pursue a combination of both power purchase and ownership options. Various ownership options have already been sought in both the 2004 and 2005 RFOs and again are being requested in the 2006 RFO. SDG&E solicits both turn-key projects and PPA with ownership options in these RFOs. SDG&E also intends to explore other ownership options including the future Greenfield development in future RFOs.

As previously mentioned, SDG&E's ability to meet a 20% renewable goal by 2010 is challenged by the ability of SDG&E to access resources outside of its service area, the anticipated cost of accessing these resources as well as the cost of upgrading or constructing transmission to access these resources.¹⁵ First, while SDG&E may be able to procure resources in other parts of California without new transmission being built, the cost of delivering that energy to SDG&E's customers will rise due to congestion costs

¹⁵ In many cases, *physical access* to transmission is not an issue under the CAISO's non-discriminatory competitively-based open-access transmission rules. Physical access is always possible provided transmission users are willing to pay the marginal cost of obtaining such access. Hence, it is the *cost* of such access that is the relevant concern, and whether the cost will render either access or renewable development uneconomic.

and other related factors. SDG&E evaluates the cost of congestion and transmission upgrades for each of its offers and includes those costs in its least cost best fit analysis.¹⁶ SDG&E is concerned that congestion and transmission upgrade costs will adversely affect the relative cost-effectiveness of some renewable resource projects. Second, certain resources will not be able to deliver unless new or upgraded transmission projects are completed. This could affect resources in several areas, including new wind production in the Tehachapi area, new wind production in SDG&E's Crestwood area and new geothermal, wind and solar facilities in the Imperial Valley area. Without substantial new transmission, SDG&E may be challenged to meet its 2010 RPS goals in the most cost-effective manner.

4. SDG&E's renewable resource commitments

The following summarizes the current status of SDG&E's renewable resource commitments.

Table III-1 in the Appendix to this chapter shows SDG&E's projected renewable purchases by year and technology type presuming the Sunrise Powerlink is constructed and operational by 2010. Table III-1 is divided into several sections. The first section shows renewable resources contracted and approved by the Commission to date. The second section shows renewable resources contracted for through SDG&E's 2005 RFO process, but still pending Commission approval. The third section shows the combined totals of the two previous sections. The fourth section shows SDG&E's Renewable Plan

¹⁶ The evaluation criteria SDG&E uses are consistent with the directives from D.03-06-071, D.04-06-013, D.04-07-029 and D06-05-039.

assumptions.¹⁷ The final section shows SDG&E's net short differential between these assumptions and projected annual renewable energy resource production from the contracts signed to date. That is, it shows what SDG&E would likely procure subtracting projected contracted for deliveries compared to the assumptions made in SDG&E's Renewable Plan assumptions, in order to achieve a 20% goal in 2010.

In sum, based on experiences in renewable procurement to date, it appears that the significant portion of economic new renewable resource opportunities are located on the eastern edge of SDG&E's service territory and in Imperial County. Below is a synopsis of how the Sunrise Powerlink will be integral in to accessing these opportunities.

C. SDG&E Needs the Sunrise Powerlink to Meet RPS Goals

Hypothetically, given the CAISO's open access regime, it is possible for SDG&E to meet its 2010 RPS goals without the Sunrise Powerlink. But the state's renewables mandate does not call for meeting the RPS goals at all costs. Given the high likelihood of prohibitively costly congestion, and the accompanying chill on renewable development without the Sunrise Powerlink, the Sunrise Powerlink is necessary for SDG&E to meet its RPS goals in a cost effective manner. Further should the state adopt future goals that increase the renewable target beyond 20% to possibly 33%, the Sunrise Powerlink would play a critical role in allowing SDG&E to expand plan to meet these expanded goals.

If Sunrise is not approved or developed, a strong likelihood exists that accessing new renewable resources in Imperial Valley will result in increased congestion costs. In addition, if forecasted congestion costs are high, SDG&E

¹⁷ See SDG&E's Short-Term and Long-Term Renewable Procurement Plans filed with the Commission on April 15, 2005 in R.04-04-003.

EXHIBIT D

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
(Filed August 4, 2006)

Application 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
JAMES P. AVERY
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 latter project has only fostered the emergence of 4,300 MW of new generator interconnect
2 requests to the CAISO for the development of new wind resources in the Tehachapi region. In
3 contrast, it appears that the pending Sunrise Powerlink project - still in the Commission's
4 CPCN process - has already fostered over 6,000 MW of new generator interconnect requests in
5 the CAISO queue for renewable resources.³ Given the documented renewable potential in and
6 near the Imperial Valley, the Sunrise Powerlink is already an important component of the State's
7 energy strategy. As I testified earlier, Sunrise will immediately provide large-scale access to
8 some of the most promising sites for renewable development, encourage developers to invest in
9 additional ventures, and provide SDG&E with the ability to deliver that power at a lower cost
10 than the alternatives. Indeed, given the more than 6,000 MW of interconnection requests in the
11 CAISO queue that would benefit from Sunrise as described by Ms. Brown, it is beyond dispute
12 that the Imperial Valley, and surrounding areas, offers renewable potential far in excess of
13 existing delivery capability.

14 **B. UCAN is simply wrong about Sunrise and Imperial Valley Renewables**
15 **development.**

16 UCAN postulates that there will be little if any renewables developed in Imperial Valley
17 and that what is developed can be delivered to San Diego with or without the Sunrise Powerlink
18 (Marcus at 90-103, 137).

19 At present, as noted above, the CAISO queue contains in excess of 6,000 MW of
20 generator interconnect requests to the SDG&E system, all of which would rely on capacity made
21 available by the Sunrise Powerlink for deliverability to the CAISO system. In addition, IID has

³ This does not include generator interconnection requests that are managed by LADWP that would utilize the Green Path North project, or the almost 500 MW of requests that are managed by IID, which would benefit from Sunrise.

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
LINDA P. BROWN
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 As a result, SDG&E⁴⁶ is now limited in terms of what it can import beyond the Imperial
2 Valley. Though SDG&E did receive an increased allocation of the AZ-CA system via the recent
3 Path 49 Upgrades; since around 2004 it cannot presently use all of its import capability due to
4 the limitation at Miguel.⁴⁷

5 It is for this very reason that the DRA's statement is off target. In fact Sunrise will allow
6 new renewable resources to be imported into SDG&E's system (the CAISO grid) from the
7 Imperial Valley area. It will also increase CAISO grid access to other resources or markets in
8 the Desert Southwest by eliminating the bottleneck that now exists from the Imperial Valley into
9 SDG&E's system that potentially results in under-utilization of Desert Southwest resources.
10 Based on the historical trends that have been illustrated in terms of upratings that have occurred
11 on major transmission facilities, it is reasonable to deduce that over time, the rating of Sunrise
12 may also increase in a similar fashion, making it even more effective in providing access by the
13 CAISO to both Imperial Valley resources and other Desert Southwest resources.

14 **XXXI. SUNRISE HAS SPURRED THE INTEREST OF RENEWABLE DEVELOPMENT** 15 **IN THE IMPERIAL VALLEY**

16 SDG&E agrees with DRA that a key benefit of enhancing the CAISO's connection to IID
17 is gaining more economical access to IV renewable resources (Woodruff, page ES-4). Table 4
18 below shows the renewable generation projects in the CAISO queue as of June 11, 2007 that are
19 proposing to interconnect in the San Diego area. Since SDG&E's January 26th filing, more than

⁴⁶ Throughout this discussion, it should be understood that references to SDG&E's import capability are in the context of SDG&E being one of the Participating Transmission Owners (PTOs) of the California Independent System Operator (CAISO), and that the CAISO has Operational Control over the system of SDG&E and the other PTOs.

⁴⁷ SDG&E's 1162 MW allocation on the SWPL from Arizona, combined with power injections at Yuma (55 MW) and Imperial Valley (1350 MW), result in a capability of up to 2567 MW. However, the power limit into Miguel at the 500 kV level is 1750 MW, representing a deficiency that has existed since 2006 in terms of transmitting available power from Imperial Valley (or any Desert Southwest source) to SDG&E's system.

3500 MW of new renewable interconnections have been proposed in the Imperial Valley region. In addition, there is an additional 1,900 MW in the queue that will benefit from the Sunrise Powerlink through the additional capacity that will be made available. This doesn't include the 495 MW of renewables in IID's generator interconnection queue.

Table 4
Active Renewable Generation Projects in the CAISO Queue

As of June 11th, 2007

LOCATION	MW	RENEWABLE TYPE
East County	354	Wind
Imperial Valley Sub	1400	Solar
Imperial Valley Sub	3000	Wind
Border Substation	27	Biomass
SWPL	1580	Wind
Miguel Substation	500	Wind

As SDG&E witness William Kemp testifies, the Sunrise project will allow developers of renewables to consummate power sales contracts with customers such as SDG&E, and to contract for transmission service. This will greatly facilitate financing for the projects since it will both reduce a substantial development risk involving access to the grid and will increase the range and volume of financially viable projects that could be developed.

XXXII. NO NEED FOR A SAN DIEGO GRID RELIABILITY ACTION PLAN

The testimony of Division of Ratepayer Advocates⁴⁸ states that they believe the Commission should implement a "San Diego Grid Reliability Action Plan" and the Commission should pursue this planning exercise in parallel with its analysis of Sunrise.

SDG&E disagrees with this need for a separate planning regime since system resource needs have been and continue to be included in the Commission's long-term procurement planning proceedings. Grid wide resource needs and the role of transmission as part of a

⁴⁸ Phase 1 direct testimony, Volume 1 of 5 (Kevin Woodruff), page ES -8, lines 5-7.

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
(Filed August 4, 2006)

Application No. 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
WILLIAM J. KEMP
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

2.3 The key questions that I will focus on answering include:

- Would access to the Sunrise Powerlink encourage higher levels of renewable generation development in the Imperial Valley region?
- Would the Sunrise Powerlink facilitate achievement of SDG&E's goals for renewable generation?
- Are regulators in other states taking any actions to encourage the siting and construction of transmission lines to connect to renewables energy sources, that the California PUC might consider in this proceeding in determining the need for Sunrise Powerlink?

I offer no opinion relating to integrated resource planning methodologies, or the relative costs of SDG&E's options for supplying electrical energy and capacity to its customers. Those topics are addressed by other SDG&E witnesses.

2.4 To develop my testimony in this proceeding, I relied primarily on my own relevant industry experience and knowledge, especially my experience in advising developers or purchasers of generation and transmission projects. I conducted a high level review of the facts in this certification proceeding that relate to renewables development and RPS targets, and reviewed publicly available information on similar transmission lines elsewhere in the United States.

3. IMPACT OF SUNRISE POWERLINK ON THE ECONOMICS OF RENEWABLES DEVELOPMENT

3.1 In the following discussion, I will speak initially about Independent Power Producers (IPPs). Projects that use renewable energy resources are a subset of IPPs. I will address general IPP matters first, and then discuss renewable resources more specifically.

3.2 An appreciation of the perspective of an IPP is essential to understanding how access to the Sunrise Powerlink would affect renewables development in the Imperial Valley region. Unlike regulated utilities, an IPP has no regulatory assurance of recovering the cost of its investment or earning a return on it. Its capital investment is at risk. Like any other investor in competitive markets, the IPP is engaged in a search for attractive returns. An IPP will invest in a new generation project only if it is confident that it can earn a rate of return greater than its cost

1 of capital. That cost of capital will reflect its risk profile, as assessed by its equity or debt
2 investors.

3 3.3 The heavy debt burden borne by the typical IPP limits its financial flexibility.
4 IPPs' balance sheets are normally more leveraged than a utility. Their equity capital is generally
5 more limited, and not adequate to fund more than a small portion of the cost of developing a
6 project. Most IPPs obtain their debt capital through project financing, where the lender does not
7 have recourse to a parent company or other financial backer. Accordingly, the lender will look
8 for a strong assurance of adequate revenue before it commits to making a loan. The execution of
9 off-take agreements by an IPP and its intended anchor customers is a crucial step for obtaining
10 financing. While it was possible in the energy boom of the late 1990s to get a lender to commit
11 debt capital on a purely merchant basis (i.e., on simply the prospect of unregulated sales in a
12 robust market), almost all lenders now require a substantial portion of the output of a new plant
13 to be covered by longer term power sales agreements with creditworthy counterparties.

14 3.4 The relatively thin equity base of the typical IPP means that sustained negative
15 cash flows are not viable. Building a power plant requires heavy capital expenditures to procure
16 land and equipment and pay for construction. Debt service normally commences upon project
17 commissioning. So IPPs need their projects to be up, running, and generating revenue as quickly
18 as possible.

19 3.5 The result of these basic facts of economic life is that generating plants are not
20 built ahead of access to their markets. Generation project developers may undertake early
21 development activities for promising projects (e.g., obtaining places on interconnection queues,
22 or taking out options on land), but they will not "pull the trigger" on more expensive activities
23 such as permitting basic design or procurement of equipment until all the essential elements are
24 in place. Transmission links to their customers are definitely essential. Debt service after
25 project commissioning cannot be continued for long without revenue from sales to customers.
26 Indeed, banks would not provide financing to an IPP project without evidence that adequate
27 transmission interconnections will exist by the time of the project's commercial operation date.

28 3.6 Due to the integrated nature of the wholesale power generation and transmission
29 systems, a "chicken or the egg" conundrum can cause difficulties for orderly development of
30 renewable energy resources and related transmission facilities. One manifestation of this
31 conundrum is the issue of funding for interconnection facilities. Where renewable energy

1 projects can readily connect to a nearby unconstrained transmission system, the additional cost
2 for transmission facilities will not pose a large barrier for attractive projects. However, if the
3 transmission system is constrained and generation project developers are required to provide up-
4 front capital contributions for the required upgrades or new lines, the financing burden and risks
5 for the developers increases substantially. Their capital needs increase and their financial profile
6 becomes riskier in investors' eyes. Fewer projects would be able to obtain financing, and those
7 that did would pay higher costs for capital, with consequently higher prices to customers like
8 SDG&E. This is especially true for developers of renewable energy projects, who are typically
9 smaller and more thinly financed than developers of large fossil-fueled plants.

10 3.7 On the other hand, financing for a line like the Sunrise Powerlink could be
11 obtained more quickly and at lower cost by a well-capitalized utility such as SDG&E. Its cost of
12 equity capital is significantly lower than that of the typical IPP, and it also enjoys lower costs for
13 debt. Its weighted cost of capital is lower, despite the lower leverage. (This capital cost
14 advantage is to be expected, since regulators encourage utilities to structure their balance sheets
15 to minimize costs of capital.)

16 3.8 Stepping back and looking at the issue from a fundamental level, one must
17 recognize that the wholesale power system operates as an interconnected whole. All generators
18 must be linked to loads through transmission or distribution lines. Building one without the
19 other would be a waste of money. Transmission lines such as Sunrise Powerlink serve as an
20 essential transport path to bring generated electricity to market, just as other modes of
21 transportation move other types of goods to market. In the case of the electricity industry,
22 transmission lines also serve as a bi-directional pathway to provide emergency or short-term
23 support from one system to another.

24 3.9 Thus, from the Independent Power Producer's perspective, the improved access to
25 markets enabled by the Sunrise Powerlink will increase the range and volume of financially
26 viable projects that could be developed. If the Line is not built, would-be project developers in
27 the Imperial Valley will be constrained to the customers they can access through existing
28 available transmission capacity, which is fairly limited, and perhaps other new lines out of the
29 Imperial Valley, if they are built (e.g., the proposed Los Angeles Department of Water and
30 Power's 500 kV Green Path North project). Either way, the renewable energy would be

1 absorbed by other California utilities, renewable energy sales opportunities would be smaller,
2 and SDG&E would be no closer to meeting its renewables targets.

3 3.10 If the Sunrise Powerlink is built, the pathway to market will be much larger. IPPs
4 will have the capability to negotiate sales contracts with customers such as SDG&E, municipal
5 utilities, or other load-serving entities. They will also be able to contract for transmission service
6 to deliver their product to those customers. Two out of the three major drivers in a generation
7 project's operating income – revenue and transmission costs - will be nailed down.¹ The risks
8 faced by investors will be much more manageable. Good projects will find it much easier to
9 obtain financing and commence development. This could happen for only a much smaller
10 volume of projects if the Line is not built.

11 3.11 This economic logic holds for any type of generation. In the foreseeable future,
12 the primary generation resources for which the Imperial Valley region offers advantageous
13 development conditions are geothermal, solar, and perhaps wind. This is due to the combination
14 of the resources available in the Imperial Valley region and the demand of load-serving utilities
15 for generation from renewable resources, under the Renewables Portfolio Standards
16 requirements of the State of California. But the Sunrise Powerlink will be an asset with a useful
17 life of fifty to one hundred years. It can serve to link all types of generation and loads, as the
18 power industry and its technologies develop. It can also be expanded or interconnected with new
19 lines.

20 **4. POSITIVE IMPACT OF READY TRANSMISSION ACCESS**

21 4.1 One need not look far to find many examples of the impact of transmission access
22 on the siting decisions of generation project developers.

- 23 • Generation plants in the early decades of the electricity industry were located
24 near the loads they served, simply because long-distance transmission was
25 not available.
- 26 • The great bulk of the greenfield gas-fired or coal-fired generation plants built
27 by IPPS since the late 1990s were sited in locations with ready access to the

¹ The other major driver is generation costs. Taxes (and tax credits) are also a significant consideration for renewables, but projects must still deliver their output before most tax credits can be claimed.

1 three vital transportation modes: electrical transmission lines (path to
2 market), gas pipelines or rail/water access for coal (fuel supply), and roads
3 (construction and operations). In the heyday of the energy boom, siting for
4 new combined cycle combustion turbine (CCCT) projects involved little
5 more than finding intersections of major electric and gas transmission lines.
6 Developers and investors became more selective when the market got
7 tougher. But the obvious truth is that nobody built generation projects where
8 they did not have (or could not reasonably expect) access to transmission.

9 4.2 Another twist on this market reality is that sites of decommissioned or mothballed
10 generation plants are attractive locations for developing new generation projects, because they
11 offer ready transmission access.

- 12 • Many CCCTs have been built on or near the sites of old, decommissioned
13 generating plants. The transmission access is already there (although
14 sometimes upgrades are required).
- 15 • In at least two examples of which I am aware, combustion turbine plants
16 were developed on or adjacent to the sites of mothballed nuclear projects, in
17 large part because high capacity transmission lines to the site had already
18 been built and were very available. These nuclear projects were WNP-3 in
19 Washington state and Shoreham in New York.

20 4.3 These examples serve to reinforce the basic truth of “If you build it, they will
21 come.” Of course, the reality is a bit more complex. You would not build it (a new
22 transmission line) until you had a reasonable expectation that they indeed will come. And only
23 the financially viable projects would come.

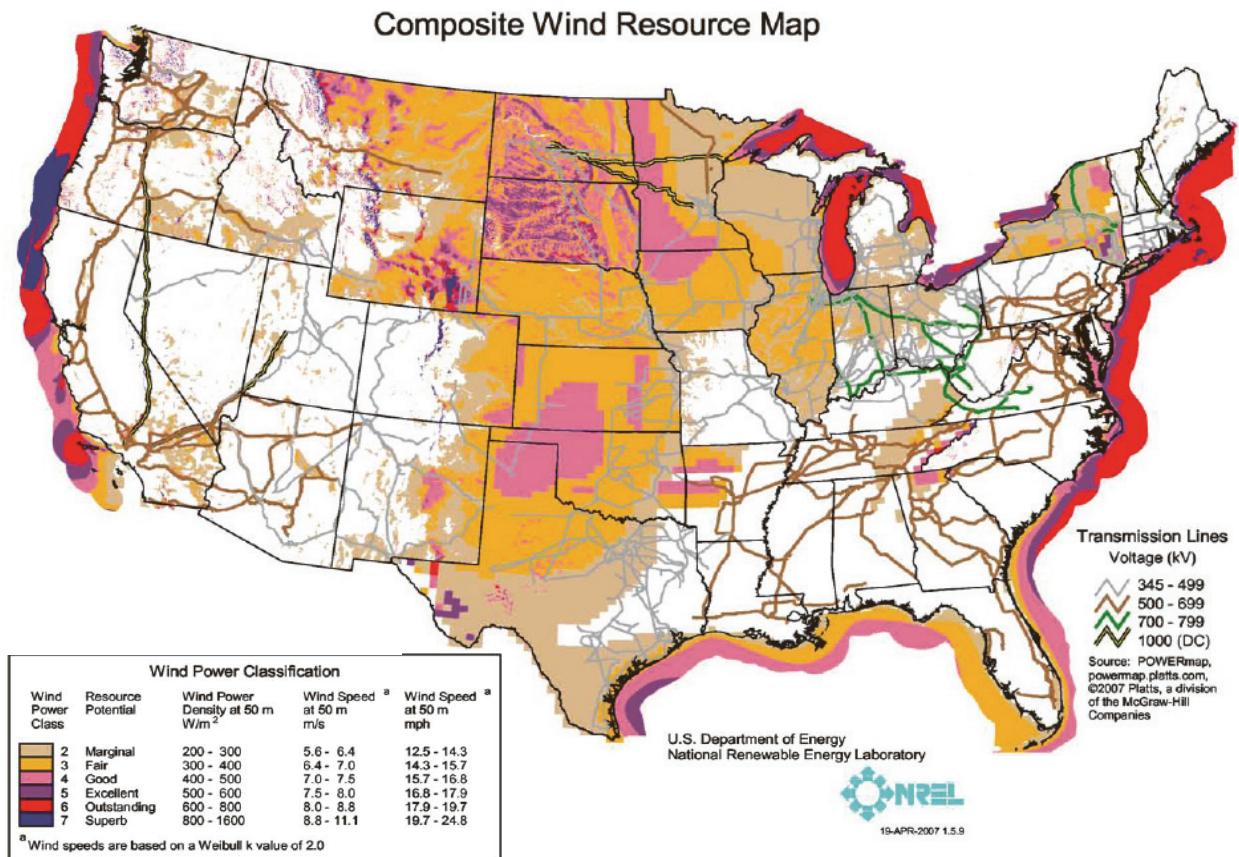
24 **5. EFFECTS OF LACK OF TRANSMISSION ACCESS**

25 5.1 The flip side is also true. “If you don’t build it, they won’t come.” The
26 fundamental interconnected nature of the wholesale power system means that generation plants
27 will not be built without transmission access, unless they serve only local loads.

28 5.2 The development of North America’s wind power resources has been limited by
29 this basic fact. It is sometimes said today that most of the good wind power sites have been

developed. What is actually true is the many of the good wind power sites with good transmission access have been developed.

5.3 The single largest pool of high quality, accessible wind power sites in the U.S. is in the northern Great Plains. Why has there not been more wind power development in this region? Simply because there is very little additional transmission capacity available to take wind energy from these regions to load centers further east.



5.4 The situation is similar for other regions with excellent wind resources but poor transmission access, such as the Texas Panhandle or the Queen Charlotte Islands. No transmission; no generation projects. However, where there is a prospect of transmission being built into the region in the near future, as in Texas, wind power developers have already taken out options to purchase the best sites. But they will not pull the trigger and begin active development until the reality of transmission access is much closer.

6. ANALOGY TO DEVELOPMENT OF GAS RESERVES

6.1 Another instructive analogy is the development of proven natural gas reserves. Gas exploration and production companies may explore widely, and drill test wells to prove out major prospects. However, they will not drill production wells and build gathering networks until pipeline capacity is available to take their product to market. Developing a gas reserve is expensive, and a prudent gas company will not incur this expense before it can generate revenue from product sales.

6.2 The costs of developing geothermal generation are similar to those of developing natural gas production fields, since both involve drilling, gathering, and processing. Geothermal plants have additional capital costs for their generation equipment, of course. So geothermal project developers in regions such as the Imperial Valley would be doubly disinclined to build in advance of access to markets.

6.3 Developers of new gas pipelines and new electric transmission lines make their investment commitments according to similar criteria. New pipelines go into construction only after shippers subscribe in advance to enough capacity to meet the revenue assurance targets of the pipeline company (or its investors).² The new pipeline capacity need not be 100% subscribed, but the pipeline company must have a reasonable expectation of ramping up to a fairly high utilization factor within a few years.

6.4 Where gas pipelines are not built, gas production is not developed (e.g., northern Alaska). Where new gas pipelines are built, production volumes ramp up quickly to take advantage of the improved access to market (e.g., Barnett Shale production into the Crosstex and other new pipelines in Texas, or coal seam production in the central Rockies into the Rockies Express pipeline).

7. OTHER RENEWABLES-DRIVEN TRANSMISSION PROJECTS

7.1 Other state commissions and transmission system operators have recognized the need to build new transmission capacity to areas with high potential for development of renewable generation resources. In states that have mandatory Renewables Portfolio Standards (RPS), additional transmission capacity to link renewable resources is de facto required. There is

² Pipeline developers must receive regulatory certification of need before commencing construction, also.

1 not sufficient potential for cost-effective renewable development near the major urban load
2 centers to meet the RPS targets.

3 7.2 Again, numerous examples can be cited.

- 4 • The proposed Big Stone II transmission line in eastern South Dakota and
5 western Minnesota is intended to gather at least 600 MW of wind energy, and
6 deliver it into the Minnesota high voltage grid, primarily for consumption in
7 the Twin Cities.³ Even before the state of Minnesota raised its RPS targets
8 and made them mandatory (rather than voluntary, as they had been), the line
9 was already included in the CapX 2020 plan formulated by Minnesota's
10 major utilities. It had also been placed in the Midwest Independent System
11 Operator's queue of needed generation interconnection projects. Since the
12 passage of the mandatory RPS bill in February 2007, the Minnesota PUC has
13 acknowledged that more such transmission will be needed to connect
14 generation from renewable resources.
- 15 • Several large transmission projects are proposed in Texas, to link generation
16 development (mainly wind power) in designated Competitive Renewable
17 Energy Zones (CREZ) to urban load centers. Most of the high potential
18 CREZ are in west Texas or the Texas Panhandle. The proposed lines range
19 in size up to 6,000 MW. The Texas PUC is currently considering which of
20 the transmission projects to approve, in coordination with its selection of
21 preferred CREZ for renewables development.
- 22 • The California PUC itself has recently approved the development of the
23 Tehachapi project, which will provide access to an area of abundant wind
24 development potential. It has also recently considered whether to authorize
25 construction of new transmission lines east from the Bay Area in northern
26 California, for the main purpose of providing transmission access for
27 developers of renewable generation projects.

³ The developers of the Big Stone II transmission line explicitly incorporated wind power interconnection needs in their design and siting of the line. It has run into opposition in Minnesota because it would also carry about 600 MW of new coal-fired generation. That complicating factor is not present for the Sunrise Powerlink.

1 7.3 On a broader inter-regional level, the renewable hydroelectric resources of the
2 Pacific Northwest did not enter their second stage of development until construction of the
3 Pacific Interties was assured in the 1960s. The ability to access the wholesale power market in
4 California was necessary to the economic justification for large renewable energy projects such
5 as the lower Snake River dams and the second Bonneville powerhouse.

6 **8. OPTION VALUE OF SUNRISE POWERLINK**

7 8.1 The baseline value of the Sunrise Powerlink, as compared to other supply or
8 demand management options available to SDG&E, is addressed by other SDG&E witnesses.
9 Their analyses deal with the benefits of the Line to SDG&E, given a specified set of
10 assumptions. These assumptions include such factors as the volume of renewables generation
11 developed in the Imperial Valley region, the existing RPS targets in California, and the
12 constraints of the existing transmission grid in southern California.

13 8.2 As DRA witness Kevin Woodruff points out in Section 4.2.2 of his Phase 1 Direct
14 Testimony in this proceeding, the Sunrise Powerlink also has an “option” value. That is, it gives
15 SDG&E more flexibility in changing its resource portfolio to meet changes in regulations or
16 changes in market conditions that are not reflected in the baseline assumptions. Mr. Woodruff
17 gives the examples of SDG&E gaining the ability to purchase power from a broader set of
18 suppliers outside of San Diego County, and the possibility of the Line linking into other new
19 transmission developments in far southeastern California.

20 8.3 The Sunrise Powerlink also would by its nature reduce transmission constraints
21 into and out of SDG&E’s system, thereby reducing physical congestion and the related
22 congestion costs. SDG&E and the CAISO would have more flexibility in managing congestion
23 in the future, which is a form of option value.

24 8.4 Other sources of option value from the Sunrise Powerlink may be even larger and
25 more likely, such as shifts in RPS requirements or imposition of carbon taxes/credits. For
26 example, the first phase RPS targets have already been moved up to 2010, from 2017. If the
27 dates or percentages become even more aggressive, the value of the renewable resources
28 accessed through the Line would increase. Similarly, it appears likely that the federal
29 government will act in the next few years to create a cap-and-trade regime for carbon credits, or
30 a similarly intended system for reducing greenhouse gas (GHG) emissions. This would increase
31 quite substantially the cost of generation from fossil fuels. If carbon credits turn out to be more

EXHIBIT E

1 the market and seek renewables. And then we look at
2 where they are bidding into our system and then the cost
3 of those renewables in different regions of our system.
4 Imperial Valley is a wealth of potential for renewables.
5 And the bids that we've received up there, several of
6 them have been very attractive, better than other places
7 in the state; and we don't get sufficient bids within
8 San Diego to even come close to meeting our needs.

9 So if we look beyond San Diego, we look where
10 else can we go. And I do know that, for example, the
11 State has been doing a lot of work to get renewables in
12 from the Tehachapi area. But in 2006 and 2007 we
13 received zero bids from the Tehachapi area, and we're
14 getting a lot of bids from the Imperial Valley area.

15 So it's critical in that, if these resources
16 are going to be developed, we must have transmission to
17 get them into our system, because they cannot be
18 developed without new transmission.

19 Q Okay. But relating back to my question about
20 whether you actually need Sunrise in order to meet the
21 2010 goal, you said, well, it's a critical link. In the
22 context of that question, what does critical link mean?

23 A Without Sunrise, I do not think we have the
24 ability to meet the goal, because the contracts that are
25 being presented to us depend on Sunrise.

26 Now, is it theoretical that if we abandon all
27 contracts that bid on here and we pursued other
28 contracts in other areas? There may be the potential to

1 meet it, but I don't think we can do it by 2010.

2 Q At various points in your rebuttal testimony I
3 believe that you talk about the importance of deferring
4 to the analysis that's being conducted by the
5 Independent System Operator; is that correct?

6 A As it relates to dispatching the system, yes.

7 Q And that's, in other words, let's look at this
8 batch but not any of the other aspects of the analysis?

9 A It's more than that. It's depend -- it's
10 whether the facilities are deliverable. I mean the ISO
11 operates the grid. And in that respect, I have to defer
12 operating decisions to the ISO.

13 Q So if the ISO in its modeling assumes the same
14 level of renewables coming in in San Diego with or
15 without Sunrise, do you think they got it wrong?

16 A Well, I think they look at it from the
17 standpoint of where renewables are in the state. They
18 didn't look at it specific to San Diego. In other
19 words, they look at renewable potential and where
20 renewables may develop without necessarily focusing on
21 whether those renewables are bidding to San Diego. And
22 in fact, one of the things you see in the ISO analysis
23 is the development of more renewables in the Tehachapi
24 area if Sunrise is not constructed. Yet none of those
25 renewables bid to us in the last two years.

26 So if you look at it from the standpoint of
27 where the bids are coming from and whether those bids
28 can be developed, we're seeing far more potential in the

EXHIBIT F

1 the market and seek renewables. And then we look at
2 where they are bidding into our system and then the cost
3 of those renewables in different regions of our system.
4 Imperial Valley is a wealth of potential for renewables.
5 And the bids that we've received up there, several of
6 them have been very attractive, better than other places
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24 ability to meet the goal, because the contracts that are
25 being presented to us depend on Sunrise.

26 Now, is it theoretical that if we abandon all
27 contracts that bid on here and we pursued other
28 contracts in other areas? There may be the potential to

EXHIBIT G

1 being built?

2 A 10 percent.

3 Q 10 percent of the 13 percent or --

4 A Well, 10 percent of 2010 retail sales, so --

5 Q So --

6 A -- the majority of the 13 percent.

7 Q Are you familiar with the methods that SDG&E
8 and the CAISO have used to estimate the value of Sunrise
9 that may be related to the development of renewable
10 resources?

11 A No, I'm not.

12 Q Well, based on what you do know, do you think
13 a failure of Imperial Valley resources would diminish
14 the value?

15 A No, I don't.

16 Q Can you tell me why not?

17 A Well, I think the value of the Sunrise line is
18 accessing the potential renewable energy that exists in
19 the Imperial Valley. It's clear to me that in order for
20 the state to reach the goals it set itself in RPS and
21 greenhouse gas, that it's going to have to tap
22 the potential of the Imperial Valley.

23 So the value of the Sunrise line is not tied
24 to the fate of any one particular project. If a project
25 fails, somebody else is going to have to come in and
26 develop the renewable potential that exists out there.

27 Q So your premise is that Imperial Valley
28 resources will develop; it's just a matter of who's

EXHIBIT H

1 interconnect that much generation and deliver the power
2 even with the REC taken off of the power, separated from
3 the power and traded separately. That power still needs
4 to go somewhere. And I just don't believe you can push
5 that kind of generation out of Imperial Valley without
6 building some significant transmission upgrades. And I
7 think that the Imperial Valley study group bears that
8 out, the results of their study.

9 And that's generally my understanding of it.

10 Q So your understanding is that the Sunrise is
11 the only means for removing -- moving a significant
12 amount of renewable generation out of the Imperial
13 Valley?

14 A No, your Honor. I understood the question to
15 be would Sunrise be necessary.

16 Let me modify my answer.

17 Bulk transmission would be necessary --
18 additional bulk transmission would need to be added to
19 the system to move the power out of the Imperial Valley.
20 Sunrise, of course, would be one option for doing that.

21 Q In your direct testimony at 3-4, you say that
22 SDG&E has received bids in its renewable RFOs for solar
23 thermal projects. Do you recall that?

24 A Yes, your Honor.

25 Q Does SDG&E consider the generation from these
26 solar thermal projects to be deliverable without
27 Sunrise?

28 A I believe the majority of it is not

1 deliverable without Sunrise or some equivalent addition
2 to the transmission system.

3 Q You believe or --

4 A I believe, based on information I have seen --
5 confidential information I have seen from the California
6 Independent System Operator, I'm informed by that
7 information that most of that power cannot be delivered
8 without a transmission upgrade.

9 Q What do you mean by most?

10 A There is provision for a slice of it, and it's
11 somewhere between, my reading of the documents,
12 somewhere between 150 to 300 megawatts would be
13 delivered without. But anything beyond that, the next
14 megawatt is going to require some sort of transmission
15 upgrade to get the power delivered.

16 Q How much generation is deliverable out of
17 Borrego Springs today?

18 A I don't know the answer to that. I know that
19 it's very limited, but I don't know.

20 Q Do you know if it's less than a hundred
21 megawatts?

22 A I believe it to be less than a hundred
23 megawatts, but I don't know the exact answer.

24 Q Was the bid at Borrego that you discussed at
25 page 3-4 rejected because it wasn't deliverable?

26 A I'm afraid I'm not familiar with that, why
27 that particular offer was rejected.

28 Q So you also don't know whether it was rejected

EXHIBIT I



CHAPTER I

EXECUTIVE SUMMARY



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: James P. Avery

The importance of transmission was also addressed by the CEC in its recently adopted Strategic Transmission Investment Plan,¹⁷ which clearly identified the need for certain major transmission projects, and specifically found that the Sunrise Powerlink would provide significant benefits to the State:

Sunrise Powerlink 500 kV Project - The proposed 500 kV Sunrise Powerlink Project would provide significant near-term system reliability benefits to California, reduce system congestion and its resultant costs, and provide an interconnection to both renewable resources located in the Imperial Valley and lower-cost out-of-state generation. Without this proposed project, it is unlikely that SDG&E will be able to meet the state's RPS goals, ensure system reliability, or reduce RMR and congestion costs. The Energy Commission therefore believes that the proposed project offers significant benefits and recommends that it move forward expeditiously so that the residents of San Diego and all of California can begin to realize these benefits by 2010 (Report at 6).

* * * *

In summary, the proposed 500 kV Sunrise Powerlink Project would provide significant near-term system reliability benefits to California, reduce system congestion and resultant congestion costs, and provide an interconnection to renewable resources located in the Imperial Valley and lower-cost out-of-state generation. Without the proposed project, it is unlikely that SDG&E will be able to meet the state's RPS goals, ensure system reliability, or reduce RMR and congestion costs. Therefore, the Energy Commission believes the proposed project offers significant benefits and recommends that the project be moved forward expeditiously so that the residents of San Diego and all of California can begin realizing these benefits by 2010 (Report at 65).

E. Resource Planning

Energy demand in the SDG&E service area is steadily increasing as a result of the area's growth. The electric load served by the SDG&E transmission system is expected to grow by over 750 megawatts ("MW") over the next ten years (2006 through 2015). This is an increase of 19% and includes an expected reduction of 595 MW due to rather

¹⁷ Strategic Transmission Investment Plan, Prepared in Support of the 2005 Integrated Energy Policy Report Proceeding (04-IEP-1K), Final Committee Report, adopted November 21, 2005.

EXHIBIT J



CHAPTER I

EXECUTIVE SUMMARY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: James P. Avery

The CPUC is also reviewing a number of transmission projects that will help meet the goals articulated in the EAP.²³

As recognized by California's loading order and the EAP, all of these resource elements are essential to achieving a properly balanced portfolio of energy resources and infrastructure. The EAP emphasizes the critical need for transmission as follows:

Significant capital investments are needed to augment existing facilities, replace aging infrastructure, and ensure that California's electrical supplies will meet current and future needs at reasonable prices and without over-reliance on a single fuel source....

An expanded, robust electric transmission system is required to access cleaner and more competitively priced energy, mitigate grid congestion, increase grid reliability, permit the retirement of aging plants, and bring new renewable and conventional power plants on line. Streamlined, open and fair transmission planning and permitting processes must move projects through planning and into construction in a timely manner. The state agencies must work closely with the CAISO to achieve objectives and to benefit from its expertise in grid operation and planning...²⁴

The importance of transmission was also addressed by the CEC in its recently adopted Strategic Transmission Investment Plan,²⁵ which clearly identified the need for certain major transmission projects, and specifically found that Sunrise would provide significant benefits to the state:

Sunrise Powerlink 500 kV Project - The proposed 500 kV Sunrise Powerlink Project would provide significant near-term system reliability benefits to California, reduce system congestion and its resultant costs, and provide an interconnection to both renewable resources located in the Imperial Valley and lower-cost out-of-state generation. Without this

²³ See I.05-06-041, I.05-09-005, A.04-12-007, A.04-12-008, and A.05-04-015.

²⁴ Section II.4 of the October, 2005 *Energy Action Plan II* an "implementation roadmap for energy policies", as adopted by the Commission and the CEC.

²⁵ Strategic Transmission Investment Plan, Prepared in Support of the 2005 Integrated Energy Policy Report Proceeding (04-IEP-1K), Final Committee Report, adopted November 21, 2005 ("CEC Report").

proposed project, it is unlikely that SDG&E will be able to meet the state's RPS goals, ensure system reliability, or reduce RMR and congestion costs. The Energy Commission therefore believes that the proposed project offers significant benefits and recommends that it move forward expeditiously so that the residents of San Diego and all of California can begin to realize these benefits by 2010.²⁶

E. Sunrise Meets the Commission's and the State's Criteria for Prudent Transmission Investment.

Consistent with the State's EAP, the CEC's Strategic Transmission Investment Plan, and the Commission's direction in D.04-12-048, SDG&E has evaluated the need for new transmission using the following three key criteria:

- *Maintaining reliable service;*
- *Accessing renewable energy; and*
- *Reducing high energy costs.*

These three objectives best define the purpose of the Sunrise Powerlink. As detailed in this testimony, SDG&E believes that the Sunrise Powerlink best meets these three key objectives and is the next logical step to be taken by SDG&E in its efforts to meet the State's energy goals. The benefits in these three areas are as follows.

1. Sunrise is needed for reliable delivery of electricity in San Diego.

Fundamentally, reliability drives the need for the project. SDG&E plans its transmission system to provide reliable electric service under adverse weather and system conditions, consistent with regulations, industry standards and good business practice. As a Participating Transmission Owner ("PTO") under the CAISO FERC tariff, SDG&E must comply with CAISO's statewide grid planning standards which consist of:

- Western Electricity Coordinating Council ("WECC") Reliability Criteria for Transmission System Planning;

²⁶ CEC Report at 6; see also *id.*, at 65.

EXHIBIT K

1 front of me earlier this morning by the Center for
2 Biological Diversity, and it was referred to as Appendix
3 A, I believe.

4 In that appendix is a new schedule of what
5 would be constructed, when, so that we can still meet
6 that date.

7 Q If you were unable to meet the 2010 -- the
8 June 2010 date, let's say, for instance, that the date
9 would slip by a year, what actions would SDG&E have to
10 take in the meantime?

11 A If it were to slip by a year, we would
12 probably work with the ISO to try to extend the life of
13 the South Bay Power Plant by a year.

14 I don't know specifically whether it would be
15 all units.

16 We may make an emergency Application at the
17 CPUC to install gas turbines.

18 I think it depends on the circumstances under
19 where we start going or how we start going.

20 It would probably entail an emergency
21 Application to the Commission to do something else.

22 Q And would your answer change if hypothetically
23 we're talking about 2012 instead of 2011?

24 A I think the longer it slips, our plan of
25 service would have to change. I -- we'd have to do
26 something different if it were two years versus three
27 years versus four years.

28 I think Jan Strack's testimony has put forth

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
(Filed August 4, 2006)

Application 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
JAMES P. AVERY
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 this juncture, our region is at an “energy crossroads” where legitimate policy options can be
2 implemented. SDG&E now has the choice to secure substantial additional renewable resources
3 before committing to additional fossil based energy, or to postpone renewables and secure fossil
4 based-fired energy today. If SDG&E is to achieve the State’s Renewables Portfolio Standards
5 (RPS), and the State’s green house gas initiatives, SDG&E must act now to ensure that all viable
6 renewables are pursued as quickly as possible and that we don’t deliberately put off till
7 tomorrow what should be done today, as UCAN would have us do.

8 SDG&E does not plan in a vacuum. When decisions are made about securing resources
9 for its customers, SDG&E has to factor in how these resources will be used for Resource
10 Adequacy, how they will ensure Grid Reliability, the impact on meeting the State’s RPS goals
11 and mandatory Green House Gas Reductions (GHG). It would be inappropriate and imprudent
12 to follow the approach advocated by opponents such as UCAN who suggest that we should delay
13 our way out of a balanced energy future. If SDG&E pursues some of the “band-aids” put forth
14 by the opponents to the project, such as installing peakers to delay the need for Sunrise, then
15 SDG&E would be committing to a fossil future which would leave little, if any, room to meet the
16 RPS and GHG requirements. More importantly, our testimony verifies that any delay in the
17 commercial operation of the Sunrise Powerlink would only result in additional and unnecessary
18 costs that our customers would have to bear.

19 **II. INTERVENORS IGNORE THAT SUNRISE IS FUNDAMENTAL TO THE** 20 **STATE’S ENERGY STRATEGY**

21 **A. Project opponents ignore that Sunrise is crucial to achieving the State’s RPS** 22 **goals and its Green House Gas initiatives.**

23 SDG&E’s direct testimony demonstrates that Sunrise makes sense on any one of three
24 grounds: (1) it is the best solution to resolve an acknowledged local reliability deficit, (2) it

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
LINDA P. BROWN
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 undergrounding to accommodate these lines, increasing the cost to SDG&E and the community.
2 These factors make the cost and impact of large scale generation at Otay Mesa significant,
3 limiting the prospects for development at this site.

4 **VIII. EXTENSION OF THE EXISTING SOUTH BAY POWER PLANT CONTRACT IS**
5 **NOT PRUDENT**

6 DRA witness Woodruff is confused and contradicts himself on the subject of whether
7 SDG&E should depend on the South Bay Power Plant (SBPP) to meet its grid reliability needs.
8 Woodruff notes that the CAISO can extend the existing contract if it determines that the plant
9 would be needed (page 19). While it is possible that the CAISO may require SBPP to continue
10 operation past the November 2009 lease termination date, this is only if SBPP is required to meet
11 RMR criteria. If the CAISO does not issue an RMR contract beyond 2010, the Port of San
12 Diego will shut down and dismantle SBPP. Once this has occurred, SBPP is no longer available
13 to meet local reliability requirements. SDG&E believes that the assumption that SBPP will be
14 unavailable after 2009 is reasonable,⁸ as SDG&E will be able to meet its Local Capacity
15 Requirements (LCR) without SBPP starting in 2009, due to the addition of the Otay Mesa
16 Energy Center (OMEC) project or other new peaking generation. Once new generation is online,
17 the CAISO can remove the RMR designation from SBPP. The result of this is that SBPP is not
18 necessary to meet LCR after 2009.

19 Woodruff further states (footnote 6, p.16) that:

20 The Commission and CAISO both with (sic) to phase out RMR contracts
21 in favor of Local Resource Adequacy (LRA) contracts and transfer
22 responsibility for entering such contracts from the CAISO to Load-
23 Serving Entities (LSEs).

⁸ Both the City of Chula Vista and the port have formally opposed the South Bay power plant.
<http://www.voiceofsandiego.org/articles/2007/05/16/environment/958chula022107.txt>
<http://www.signonsandiego.com/news/metro/20070313-9999-1bn13port.html>

EXHIBIT L

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
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Application 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
JAMES P. AVERY
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**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

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3 before committing to additional fossil based energy, or to postpone renewables and secure fossil
4 based-fired energy today. If SDG&E is to achieve the State’s Renewables Portfolio Standards
5 (RPS), and the State’s green house gas initiatives, SDG&E must act now to ensure that all viable
6 renewables are pursued as quickly as possible and that we don’t deliberately put off till
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14 by the opponents to the project, such as installing peakers to delay the need for Sunrise, then
15 SDG&E would be committing to a fossil future which would leave little, if any, room to meet the
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21 **A. Project opponents ignore that Sunrise is crucial to achieving the State’s RPS** 22 **goals and its Green House Gas initiatives.**

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24 grounds: (1) it is the best solution to resolve an acknowledged local reliability deficit, (2) it

EXHIBIT M

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
JAN STRACK
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 Powerlink would reduce the costs of complying with the state’s Renewable Portfolio Standard
2 (RPS) mandate.

3 As discussed elsewhere in SDG&E’s rebuttal testimony, there is support for differing
4 assumptions that would significantly change the outcome of the CAISO’s analysis. The
5 sensitivity analysis SDG&E conducted of the CAISO’s RPS compliance costs, suggests that the
6 negative benefits that the CAISO found for years 2010 and 2015 should be positive. (see Section
7 IV-A) Setting aside the question of whether the large swings in results evidenced by SDG&E’s
8 sensitivity analysis undermines the probative value of the CAISO’s approach altogether, there is
9 a serious question as to whether there is any basis for drawing the conclusion that deferring the
10 in-service date of the Sunrise Powerlink will improve the project’s RPS compliance benefits.

11 As noted above, if the in-service date of the Sunrise Powerlink were deferred, there
12 remains the question of the costs that would have to be incurred to close the reliability gap in the
13 intervening years. SDG&E has addressed this question through a deferral analysis which
14 accounts for these costs. Using the approach underlying SDG&E’s January 26, 2007
15 supplemental testimony—which holds the location, technology mix and quantity of renewable
16 resources constant in both the without and with Sunrise Powerlink scenarios—SDG&E’s deferral
17 analysis considers delays in the in-service date of the Sunrise Powerlink of one, two and eight
18 years. Table 5 summarizes the results of SDG&E’s deferral analysis.

19 [Remainder of Page Intentionally Left Blank]

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

In the Matter of the Application of)
San Diego Gas & Electric Company)
(U-902) for a Certificate of Public)
Convenience and Necessity for the)
Sunrise Powerlink Transmission Project.)

Application No. 06-08-010
(Filed August 4, 2006)

**REBUTTAL TESTIMONY OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

Nancy Saracino
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Judith B. Sanders
Counsel
California Independent System
Operator Corporation
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916-351-4400 - office
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Dated: June 15, 2007

**REBUTTAL TESTIMONY OF THE CALIFORNIA INDEPENDENT SYSTEM
OPERATOR CORPORATION
A.06-08-010**

1 **Q. The DRA’s assessment of San Diego’s local capacity requirement (LCR) need**
2 ***sans* Sunrise indicates no capacity deficiency until 2015.⁵⁷ Does the CAISO**
3 **agree with this assessment?**

4 **A.** No, the CAISO does not concur that 2015 is the first year of capacity deficiency.
5 The DRA’s LCR revises SDG&E’s assessment by including the capacity (MW)
6 provided by SDG&E’s Advanced Metering Infrastructure (AMI) and contracts
7 with J Power (Pala), Wellhead Power Maragarita and EnerNOC. The CAISO
8 concurs that AMI, demand response and planned new generation should be part of
9 the determination of LCR, and we have updated our calculations accordingly.

10 However, San Diego loads are growing more rapidly than anticipated, as
11 evidenced by the latest CEC staff forecast (May 2007, CEC-200-2007-006).

12 Because the new CEC forecast has higher SDG&E demand and growth than the
13 prior forecast, the revised capacity deficiency date remains at 2010, as shown in
14 Table 5 below.

⁵⁷ Woodruff, Table ES-1.

REBUTTAL TESTIMONY OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION A.06-08-010

1 **Table 5: San Diego Locational Capacity Requirement⁵⁸**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Reference
Load Forecast														
1 1 in 10 CEC Forecast	4999	5084	5170	5258	5348	5439	5531	5625	5721	5818	5917	6017	6120	CEC-200-2007-006
2 -CA Solar Initiative	2	6	10	25	60	100	130	150	150	150	150	150	150	SDGE testimony 1/26/07
3 -Celerity(Demand Response)	20	20	20	20	20	20	20	20	20	20	20	20	20	SDGE testimony 1/26/07
4 -Comverge(Demand Response)	9	9	9	9	9	9	9	9	9	9	9	9	9	SDGE testimony 1/26/07
5 -EnerNOC(Demand Response)	30	30	30	30	30	30	30	30	30	30	30	30	30	
6 -AMI(Demand Response)	0	43.3	81.8	179	187	196	201	206	211	216	221	226	232	SDGE data response
7 Net 1 in 10 Load Forecast	4938	4976	5020	4996	5041	5084	5141	5210	5301	5393	5487	5582	5679	
Generation														
8 2008 Posted NQC	2917	2917	2917	2917	2917	2917	2917	2917	2917	2917	2917	2917	2917	Net Qualifying Capacity Values and LCR for Compliance Year 2008 - Corrections as of 30-May-2007
9 +SDCWA - Rancho Penasquitos	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	SDGE testimony 8/4/06
10 +Bull Moose (Biomass)		20	20	20	20	20	20	20	20	20	20	20	20	SDGE testimony 8/4/06
11 +Otay Mesa Combined Cycle		561	561	561	561	561	561	561	561	561	561	561	561	CEC website
12 +Lake Hodges Pump Storage Hydro	40	40	40	40	40	40	40	40	40	40	40	40	40	ISO Queue
13 +J Power (Pala)	94	94	94	94	94	94	94	94	94	94	94	94	94	2008 SDGE contract info
14 +Wellhead Power Margarita	44	44	44	44	44	44	44	44	44	44	44	44	44	2008 SDGE contract info
15 +Palomar inlet air chiller			20	20	20	20	20	20	20	20	20	20	20	
16 -South Bay Retirement			-702	-702	-702	-702	-702	-702	-702	-702	-702	-702	-702	
17 Total Generation	3100	3681	2999	2999	2999	2999	2999	2999	2999	2999	2999	2999	2999	
Locational Capacity Requirement														
18 Largest G-1	541.5	561	561	561	561	561	561	561	561	561	561	561	561	
19 Loss Adjustment (Note 2)	58	58	58	58	58	58	58	58	58	58	58	58	58	Table 5.1 ISO testimony 4/20/07 (Reference case vs N-1)
20 Import Capacity Need (Load-Gen)	2438	1914	2640	2616	2662	2704	2762	2831	2921	3014	3107	3203	3300	
21 Import Capacity Limit	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	
22 Surplus (Deficiency)	62	586	(140)	(116)	(162)	(204)	(262)	(331)	(421)	(514)	(607)	(703)	(800)	

Note 1: Sunrise Powerlink or alternative transmission projects are not considered in this table

Note 2: Loss adjustment needed to reflect N-1/G-1 condition

2

⁵⁸ The San Diego area 1 in 10-year extreme weather load forecast data in line 1 comes from the May 2007 CEC Staff Forecast of 2008 Peak Demand. The San Diego area load growth between 2006 and 2008 is 1.7% per year. This growth rate was assumed constant through the year 2020.

Adjustments were made to this load forecast in lines 2 through 6 to represent the California Solar Initiative and three different demand response programs. The CAISO position on counting demand response programs for local reliability purposes is still evolving. However, for the purposes of this proceeding, the CAISO will count the revised SDG&E load reduction attributed to AMI for determining the resource need year. The revised SDG&E estimates are based on SDG&E's response to Energy Division data request number 4 which was also provided to the CAISO in response to our data request. These estimates were then adjusted to reflect the impact of losses.

Line 8 = generation capacity expected to be in operation in 2008. Lines 9 through 15 = new resources expected to come into operation over the next few years, based on SDG&E resource procurement information. Line 16 = the expected retirement of South Bay Power Plant in 2010.

Local capacity requirements in the San Diego area are established so that during the outage of the largest generating unit followed by worst single transmission line outage all load in the San Diego area (i.e. line 7 of the attachment) can be reliably served. Currently the largest generator in the area is the 541.5 MW Palomar unit. In 2010 the 561 MW Otay Mesa unit will be the largest unit in the area as shown on line 18. The worst single transmission line outage is the Imperial Valley-Miguel 500 kV line outage, and in order to avoid load shedding, the import power flow into San Diego must be maintained at or below 2500 MW. Also, during this transmission line outage condition power losses increase by approximately 58 MW as shown on line 19, and this incremental increase in losses must be met by internal resources in order to maintain import flows below 2500 MW. This value of 58 MW is the difference between the 155 MW of losses in the Reference Case during the G-1/N-1 condition in Table 5.1 of the CAISO testimony and the 97 MW of losses in the same case for only the G-1 condition. Line 20 = local load (line 7 + line 19) less (line 17 – line 18). Line 22 = the surplus capacity available to meet the San Diego local load (Line 20 – Line 21).

EXHIBIT N



CHAPTER VII

SUPPLEMENTAL TESTIMONY



Application No.: A.06-08-010

Exhibit No.: _____

Date: January 26, 2007

Witnesses: Linda P. Brown (Reliability)

Jan Strack (Economics)

of such facilities when used to meet peaking needs would not overcome the higher installed and operational costs. This is evident by the fact that the industry does not build CCGTs to serve low use (low capacity factor) needs.

N. Renewable Outlook without the Sunrise Powerlink

SDG&E believes that not building the Sunrise Powerlink will chill the outlook for future renewable resource development in the Imperial Valley. Prospective developers of renewable resources in the Imperial Valley would logically be less inclined to build new resources in locations where congestion costs incurred to deliver the energy to the California load centers would make the developers' energy less competitive than energy produced closer to the California load centers. Similarly, prospective buyers of renewable energy would logically be less inclined to sign contracts to purchase the output of renewable resources in the Imperial Valley if the cost of delivering that energy to the California load centers was anticipated to render such purchases less competitive than energy generated closer to the California load centers.

SDG&E has signed contracts with renewable resource developers in the Imperial Valley whereby SDG&E has the right to decline to take the energy in the event the Sunrise Powerlink is canceled or its in-service date is delayed. This option gives SDG&E the ability to protect the interests of its bundled customers in the event the cancellation or delay in the in-service date of the Sunrise Powerlink is judged to increase the delivered cost of energy generated in the Imperial Valley beyond competitive levels.

Notwithstanding these development risks, SDG&E's Sunrise Powerlink analysis assumes that the same amount and type of renewable resources will be developed in the Imperial Valley, with the same timing, whether or not the Sunrise Powerlink is built.



CHAPTER III

RENEWABLE ENERGY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: ~~Vincent D. Bartolomucci~~ 

assumptions.¹⁷ The final section shows SDG&E's net short differential between these assumptions and projected annual renewable energy resource production from the contracts signed to date. That is, it shows what SDG&E would likely procure subtracting projected contracted for deliveries compared to the assumptions made in SDG&E's Renewable Plan assumptions, in order to achieve a 20% goal in 2010.

In sum, based on experiences in renewable procurement to date, it appears that the significant portion of economic new renewable resource opportunities are located on the eastern edge of SDG&E's service territory and in Imperial County. Below is a synopsis of how the Sunrise Powerlink will be integral in to accessing these opportunities.

C. SDG&E Needs the Sunrise Powerlink to Meet RPS Goals

Hypothetically, given the CAISO's open access regime, it is possible for SDG&E to meet its 2010 RPS goals without the Sunrise Powerlink. But the state's renewables mandate does not call for meeting the RPS goals at all costs. Given the high likelihood of prohibitively costly congestion, and the accompanying chill on renewable development without the Sunrise Powerlink, the Sunrise Powerlink is necessary for SDG&E to meet its RPS goals in a cost effective manner. Further should the state adopt future goals that increase the renewable target beyond 20% to possibly 33%, the Sunrise Powerlink would play a critical role in allowing SDG&E to expand plan to meet these expanded goals.

If Sunrise is not approved or developed, a strong likelihood exists that accessing new renewable resources in Imperial Valley will result in increased congestion costs. In addition, if forecasted congestion costs are high, SDG&E

¹⁷ See SDG&E's Short-Term and Long-Term Renewable Procurement Plans filed with the Commission on April 15, 2005 in R.04-04-003.

may be forced to replace what would otherwise be attractively priced renewable resources with resources from other areas that may be higher priced and may not result in the best overall fit for resources within SDG&E's renewable portfolio mix. SDG&E cannot state for certain what the likely outcome would be if such a scenario were to occur, however, based on offers received (and rejected) in past solicitations, SDG&E's conclusion is that the above would appear likely. Finally, since many of the other areas in California where significant new renewable potential exists are also transmission constrained, the failure to authorize new transmission facilities to access this renewable potential could very well result in the overall failure of the RPS program to achieve its aggressive goals.

This concludes this chapter.



CHAPTER V

ECONOMIC BENEFITS



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: Jan Strack

Victor Kruger

San Diego area transmission system. However, SDG&E has developed alternative cases (Case 3 and Case 20) which evaluate the economics of doing exactly that: adding in-area resources to satisfy the CAISO's G-1/N-1 reliability criteria for the San Diego area transmission system. The results of these alternative cases are presented in Chapter VI.

An argument can be made that were the Sunrise Powerlink not built, the quantity of renewable resources added in the Imperial Valley, particularly in the outer years, would be significantly reduced. This argument is based on the possibility that buyers, and renewable resource developers in the Imperial Valley, would be unwilling to accept the congestion cost risks which would exist if the transmission capability between the Imperial Valley and the southern California load centers were not increased. However, given the Commission's and the state's renewable energy goals, the result would simply be either to shift the required renewable resource development to other locations where such congestion cost risks are "acceptable" to buyers and renewable resource developers. But it is not apparent what an "acceptable" congestion cost risk is or where such alternative locations would be. The choice of alternative locations would likely involve different renewable resource technologies with capital costs that are different, and likely higher, from those of the renewable resources assumed for the Imperial Valley (for example, wind in the Tehachapi area versus geothermal in the Imperial Valley).

Moreover, assumptions would still have to be made regarding the nature and cost of possible transmission upgrades that would reduce the congestion costs associated with delivering renewable resource energy from alternative locations to the San Diego area. The results of such comparisons would intertwine the relative benefits of the assumed transmission upgrades with the relative benefits that flow from the choice of renewable resource technology and the assumed location of such resources. It would be difficult to

1 the market and seek renewables. And then we look at
2 where they are bidding into our system and then the cost
3 of those renewables in different regions of our system.
4 Imperial Valley is a wealth of potential for renewables.
5 And the bids that we've received up there, several of
6 them have been very attractive, better than other places
7 in the state; and we don't get sufficient bids within
8 San Diego to even come close to meeting our needs.

9 So if we look beyond San Diego, we look where
10 else can we go. And I do know that, for example, the
11 State has been doing a lot of work to get renewables in
12 from the Tehachapi area. But in 2006 and 2007 we
13 received zero bids from the Tehachapi area, and we're
14 getting a lot of bids from the Imperial Valley area.

15 So it's critical in that, if these resources
16 are going to be developed, we must have transmission to
17 get them into our system, because they cannot be
18 developed without new transmission.

19 Q Okay. But relating back to my question about
20 whether you actually need Sunrise in order to meet the
21 2010 goal, you said, well, it's a critical link. In the
22 context of that question, what does critical link mean?

23 A Without Sunrise, I do not think we have the
24 ability to meet the goal, because the contracts that are
25 being presented to us depend on Sunrise.

26 Now, is it theoretical that if we abandon all
27 contracts that bid on here and we pursued other
28 contracts in other areas? There may be the potential to

1 meet it, but I don't think we can do it by 2010.

2 Q At various points in your rebuttal testimony I
3 believe that you talk about the importance of deferring
4 to the analysis that's being conducted by the
5 Independent System Operator; is that correct?

6 A As it relates to dispatching the system, yes.

7 Q And that's, in other words, let's look at this
8 batch but not any of the other aspects of the analysis?

9 A It's more than that. It's depend -- it's
10 whether the facilities are deliverable. I mean the ISO
11 operates the grid. And in that respect, I have to defer
12 operating decisions to the ISO.

13 Q So if the ISO in its modeling assumes the same
14 level of renewables coming in in San Diego with or
15 without Sunrise, do you think they got it wrong?

16 A Well, I think they look at it from the
17 standpoint of where renewables are in the state. They
18 didn't look at it specific to San Diego. In other
19 words, they look at renewable potential and where
20 renewables may develop without necessarily focusing on
21 whether those renewables are bidding to San Diego. And
22 in fact, one of the things you see in the ISO analysis
23 is the development of more renewables in the Tehachapi
24 area if Sunrise is not constructed. Yet none of those
25 renewables bid to us in the last two years.

26 So if you look at it from the standpoint of
27 where the bids are coming from and whether those bids
28 can be developed, we're seeing far more potential in the

EXHIBIT O



SDG&E Sunrise Powerlink Project



Notice of Preparation/Notice of Public Scoping Meetings for an Environmental Impact Report/Environmental Impact Statement

A. Introduction

San Diego Gas & Electric Company (SDG&E) has filed applications (A.05-12-014 and A.06-08-010) for a Certificate of Public Convenience and Necessity (CPCN) with the California Public Utilities Commission (CPUC) for the proposed Sunrise Powerlink (SRPL) Project, also referred to as the Proposed Project. The proposed SRPL Project is a 150-mile transmission line between the El Centro area of Imperial County and northwestern San Diego County. SDG&E's stated purpose for the project is to bring renewable resources into San Diego County from Imperial County, and to improve electric reliability for the San Diego area.

SDG&E has also filed an application for a Right-of-Way Grant with the United States Department of the Interior Bureau of Land Management (BLM). The CPUC and the BLM have developed and signed a Memorandum of Understanding (completed on July 17, 2006) that will direct the preparation of a joint Environmental Impact Report (EIR) and an Environmental Impact Statement (EIS) referred to as an EIR/EIS for the SDG&E Sunrise Powerlink Project. The CPUC, as the lead agency under California law, and the BLM, as the federal lead agency, will prepare a Draft and Final EIR/EIS to comply with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

As required by CEQA, this Notice of Preparation (NOP) is being sent to interested agencies and members of the public. The purpose of the NOP is to inform recipients that the CPUC is beginning preparation of the Sunrise Powerlink EIR/EIS and to solicit information that will be helpful in the environmental review process. Information that will be most useful at this time would be descriptions of concerns about the impacts of the Proposed Project and suggestions for alternatives that should be considered.

As required by NEPA, the BLM has published in the Federal Register a Notice of Intent (NOI) to prepare a joint EIR/EIS for Sunrise Powerlink (FR Vol. 71, No. 169, page 51848, August 31, 2006). Similar to this NOP, the intent of the NOI was to initiate the public scoping for the EIR/EIS, provide information about the Proposed Project, and also serve as an invitation for other federal agencies granted cooperating agency status to provide comments on the scope and content of the EIR/EIS.

This notice includes background on the project proceeding, a description of the project that SDG&E proposes to construct, a summary of potential project impacts, the times and locations of public scoping meetings, and information on how to provide comments to the CPUC and BLM. This NOP and the NOI can be viewed on the project website at the following link:

<http://www.cpuc.ca.gov/environment/info/aspen/sunrise/sunrise.htm>

B. Background

CPUC Applications

SDG&E originally filed an application (A.05-12-014) with the CPUC for a CPCN to construct the SRPL on December 14, 2005. This application did not include specific details about a proposed route, nor did it include a Proponent's Environmental Assessment (PEA). Numerous parties filed protests to that

application, representing local residents and businesses, environmental interests and energy producers. The CPUC's assigned Commissioner (Commissioner Dian Grueneich) and administrative law judge held a Pre-Hearing Conference in Ramona on January 31, 2006. They issued a ruling on April 7, 2006, stating the Commission's intent to consider the merits of the application only after SDG&E had filed all relevant environmental documents, which were expected in July 2006. The ruling also stated the Commission's intent to hold a second pre-hearing conference in Ramona on September 13, 2006.

On August 4, 2006, SDG&E filed an amended application to the CPUC for a CPCN for the SRPL Project. This filing amended the initial application filed on December 14, 2005 with updated information and included SDG&E's PEA, which includes route-specific and environmental information as required by the CPUC's General Order 131-D and the CPUC's Information and Criteria List. This amended application was assigned the number A.06-08-010, and an August 9, 2006 ruling consolidated the two applications into a single CPUC proceeding. This ruling also set the time and place for the September 13, 2006 Pre-Hearing Conference, and required SDG&E to provide public notice of that meeting.

Memorandum of Agreement with Imperial Irrigation District

On June 21, 2006, the Imperial Irrigation District (IID) signed a Memorandum of Agreement (MOA) with SDG&E that sets forth a plan for ownership and construction of the SRPL. The MOA states that IID would construct the 500 kV line between the Imperial Valley Substation and a new substation at the western edge of IID's service territory (near the San Diego/Imperial County boundary). Citizens Energy will partner with IID in the financing of the IID portion of the project. The MOA states that SDG&E would construct the portion of the 500 kV transmission line west of IID's service territory to the new Central East Substation, the substation itself, and the 230 kV transmission lines between the Central East Substation and Peñasquitos Substation.

While the MOA states that IID, and not SDG&E, would construct the Imperial County portion of the SRPL, SDG&E's applications to the CPUC and to the BLM include the entire project. Similarly, IID has submitted an application to the BLM for a permit to construct and operate the Imperial County portion of the project. Because of this overlap, the EIR/EIS prepared by the CPUC and BLM for the SRPL will address the whole project from Imperial Valley Substation to Peñasquitos Substation because NEPA and CEQA require consideration of the whole of the proposed action, even if the agency is only permitting a portion of it.

C. SDG&E Route Development Process

In an attempt to obtain public input into the development of the route for the Sunrise Powerlink transmission line, SDG&E created a Public Process to inform stakeholders and the public and to invite their input during route development. In the course of its Public Process, SDG&E conducted six formal meetings, called Community Working Groups (CWGs), to gather input from specific stakeholders and affected agencies, and 16 public Open Houses. Meetings were held at nine different locations along study corridors, attracting 1,337 attendees. The process was conducted in three phases as follows:

Notice of Preparation – Notice of Public Scoping Meetings
Sunrise Powerlink Project

Phase	Purpose	Timeframe	Open Houses and Working Group Meeting Locations (Meeting Dates)
Phase I	Presented purpose and need information and project timelines.	August to December 2005	6 open houses, 2 CWG meetings: Ramona, Borrego Springs, Valley Center, San Diego (October 3-26, 2005)
Phase II	Focused on criteria for preliminary route selection at a broad scale to create study corridors.	November 2005 to January 2006	5 open houses, 2 CWG meetings: Julian, Ramona, Borrego Springs, San Diego, Valley Center (Nov. 14 – Dec. 13, 2005)
Phase III	Identified the proposed and alternative routes.	February to May 2006	7 open houses, 2 CWG meetings: San Diego, Ramona, Borrego Springs, Warner Springs, El Centro (March 20-29, 2006)

Subsequent to Phase III meetings, SDG&E made additional revisions to its proposed and alternative routes, resulting in the routing presented in the PEA that was submitted to the CPUC on August 4, 2006.

D. Project Description

Project Purpose

According to SDG&E, the proposed Sunrise Powerlink Project is needed for three primary reasons:

1. Maintain reliability of service.
2. Provide transmission capability for renewable resources.
3. Reduce energy costs in the San Diego region.

In addition, SDG&E has presented the following eight objectives in its PEA:

1. Ensure SDG&E's transmission system satisfies minimum CAISO, NERC and WECC reliability criteria throughout the planning horizon of SDG&E's Long Term Resource Plan (LTRP) and beyond, including the requirement that there be no loss of load within the San Diego area under G-1/N-1 contingency conditions.¹ Avoid siting the Proposed Project parallel to SWPL for long distances especially avoiding areas with fire history or fire potential.
2. Provide transmission facilities with a voltage level and transfer capability that (a) allows for prudent system expandability to meet both anticipated short-term (2010) and long-term (2015 and beyond) load growth through a total San Diego area import capability of at least 4,200 MW (all lines in service) and 3500 MW (under G-1/N-1 contingency conditions) and (b) supports regional expansion of the electric grid.
3. Provide transmission capability for Imperial Valley renewable resources for SDG&E customers to assist in meeting or exceeding California's 20% renewable energy source mandate by 2010 and the Governor's proposed goal of 33% by 2020.
4. Reduce the above-market costs associated with maintaining reliability in the San Diego area while mitigating the potential exercise of local market power, particularly the costs associated with inefficient generators such as the South Bay and Encina Power Plants.
5. Improve regional transmission system infrastructure to provide for the delivery of adequate, reliable, and reasonably priced energy supplies and to implement the transmission elements of state and local energy plans.

¹ "G-1" is the term used for transmission system analysis assuming that the largest generating facility is offline; "N-1" assumes that the largest transmission line is out of service.

6. Obtain electricity generated by diverse fuel sources and decrease the dependence on increasingly scarce and costly natural gas.
7. Avoid, to the extent feasible, the taking and relocation of homes, businesses or industries, in the siting of the transmission line, substation and associated facilities.
8. Minimize the need for new or expanded transmission line ROW [right-of-way] in urban or suburban areas of the SDG&E service territory already traversed by multiple high voltage transmission facilities and, to the extent feasible, assist in implementing local land use goals.

The objectives presented by SDG&E will guide the development of alternatives to the SRPL, but because CEQA does not require that alternatives meet *all* objectives, these objectives do not unreasonably constrain the alternatives development process.

Description of Proposed Project

The transmission line and facility upgrades proposed by SDG&E are known as “Sunrise Powerlink” or “SRPL.” The entire project would span a total of 150 miles (676 new towers), including a 91-mile 500 kilovolt (kV) transmission line (in Imperial County and eastern San Diego County) and a new 59-mile 230 kV line (in central and western San Diego County) that includes both overhead and underground segments. It would also include a new substation in central San Diego County and upgrades at four existing substations. The entire transmission line route is illustrated in **Figure 1 (Proposed Project Overview)** at the end of this NOP. The proposed route and ROW requirements are described below in five segments, starting at the southeastern end of the project.

Imperial Valley Link

Project Location. The first segment of the project would consist of 60.9 miles of the route, including the entire Imperial County portion and a few miles in San Diego County, as illustrated in **Figure 2, Imperial Valley Link**. The SRPL would start at SDG&E’s Imperial Valley Substation located about five miles southwest of the center of the City of El Centro. It would be on BLM land and private land, following about four miles of the existing 500 kV Southwest Powerlink (SWPL) transmission line to the northwest, then turning north, following the eastern edge of BLM land adjacent to agricultural lands. From Milepost 20 to 41, the route would follow an existing IID transmission line. It would turn west to follow SR 78 for 9.6 miles, then south along another existing IID 92 kV transmission line for 2.8 miles. The route would approach Anza-Borrego Desert State Park westward along Old Kane Springs Road for 10.8 miles.

Land Ownership and Land Use. Land ownership within the 61-mile Imperial Valley Link is primarily private owners (28.4 miles) and BLM land (31.4 miles). Land uses along the Imperial Valley Link include agriculture (13.5 miles), open space and recreation (46.2 miles) and undeveloped private property.

Project Configuration. The SRPL in the Imperial Valley Link would require construction of a total of 205 new 500 kV towers with an average height of 160 feet. Lattice towers like the existing SWPL towers would be constructed in the 4-mile portion along the SWPL. From Milepost 4 to 20, where the route follows the western edge of agricultural lands, proposed towers would be 49 steel poles and 14 lattice structures. The next 29.7 miles of the link would be constructed with lattice towers. Following a desert trail, the remaining 10.8 miles of the Imperial Valley Link would include 22 H-frame and 12 lattice structures.

ROW and Access Roads. The Imperial Valley Link would require that SDG&E obtain a new 200-foot ROW, and would require construction of 49.4 miles of new access roads (119.7 acres of disturbance).

Substation Upgrade. The Imperial Valley Link also includes upgrades to the existing SDG&E Imperial Valley Substation to accommodate the termination of the new 500 kV transmission line. The substation modifications would be within the existing substation fence in previously disturbed areas.

Anza-Borrego Link

Project Location. The proposed project would include 22.6 miles through the Anza-Borrego Desert State Park (ABDSP), as shown on **Figure 3, Anza-Borrego Link**. It would continue through ABDSP adjacent first to Old Kane Spring Road for 7.3 miles, then to State Route (SR) 78 for about 10 miles, passing the Tamarisk Grove Campground and County Route (CR) 3 to Borrego Springs, and finally to Grapevine Canyon Road, turning northwest. The route would pass through approximately 5.6 miles of the Park within Grapevine Canyon Road.

Land Ownership and Land Use. The entire Anza-Borrego Link would be located within Anza-Borrego Desert State Park. SDG&E has an existing 100-foot wide easement through the Park that was granted by BLM, but the 500 kV line would require a 150-foot wide right-of-way, so an expanded easement is required. Because of the wider easement and a route modification that would avoid a cultural resource site, the project as proposed in the Park would be located on 43 acres of land designated as State Wilderness.

Project Configuration. The entire Anza-Borrego Link would require relocation of both an existing IID 92 kV line and an SDG&E 69 kV transmission line. From the project's entry to the Park on Old Kane Springs Road to the intersection with SR 78 (6.5 miles), the new line would be on 47 new steel lattice towers with the IID 92 kV line moved to the new towers below the 500 kV conductors (an "underbuild"). Following SR 78 to the existing Narrows Substation (MP 69.7), the 92 kV line would be installed underground within the highway and the new 500 kV line would be on six H-frame structures north of the highway. At the Narrows Substation, the 500 kV line would pass north of the highway, and the smaller lines would connect to the substation using two H-frame towers. The IID 92 kV line would terminate using one H-frame tower, and the existing 69 kV SDG&E line (currently on wood poles) would be moved underground into the highway for 5.1 miles. The new 500 kV line would continue north of the highway on 25 H-frame towers. From the intersection of S3 and SR 78, the 69 kV line would be underbuilt on 58 new lattice towers. Within the Park, a total of 141 new structures would be constructed at an average height of 130 feet.

ROW and Access Roads. The Anza-Borrego Link would follow much of an existing 100-foot-wide ROW within the Park, but would require that SDG&E obtain an additional 50 feet of ROW. Portions of the proposed route would diverge from the existing ROW in areas where SDG&E wanted to reduce impacts (e.g., to move the new line further from the Tamarisk Grove Campground or to avoid cultural resources).

While existing access roads would be used along most of the Anza-Borrego Link, 8 miles of new access roads would be required (with 19.4 acres of disturbance).

Central Link

Project Location. As shown on **Figure 4A, Central Link**, the project within the Central Link is 27.3 miles long and would include 7.4 miles of 500 kV line and 19.9 miles of 230 kV line. The 500 kV line would continue northwest from the western boundary of the Park within Grapevine Canyon for about four miles, then turning west and staying south of S22 for about 2.5 miles. At this point, the 500 kV line would cross S2 and turn south for one mile, into the new Central East Substation.

The 230 kV line would exit the substation to the north, staying west and south of S2 for about seven miles. Then it would turn south for two miles, paralleling SR 79 on its east side. It would cross to the west side of SR 79 at the intersection of SR 79 and SR 76 (southeast of Lake Henshaw). Heading south,

it would parallel SR 79 at a distance of between one-half mile and three miles west of the highway. The line would parallel a portion of Mesa Grande Road running southeast, then turn south to cross SR 78 about 3/4-mile west of Santa Ysabel (at the intersection of SR 79 and SR 78), then continue south-southwest for 2.5 miles on the east side of SR 78.

Land Ownership and Land Use. Land ownership along the Central Link is: Vista Irrigation District (8.7 miles), private property (11.1 miles), and SDG&E (0.1 miles). The route would pass adjacent to the Santa Ysabel Reservation and just outside of the Cleveland National Forest. Land uses along the Central Link include undeveloped open space (22 miles), agriculture (5.1 miles), roads (0.3 miles), and park land (0.2 miles).

Project Configuration. The Central Link would include both 500 kV and 230 kV transmission line towers, and the proposed new Central East Substation. In total, there would be 158 new towers averaging 120 feet tall for 123 new 230 kV towers and averaging 160 feet tall for the 35 new 500 kV lattice towers. The 500 kV towers through Grapevine Canyon would have the 69 kV underbuild, and the existing 69 kV wood poles would be removed. At the point where the 500 kV line turns due west, the 69 kV line would drop off the 500 kV towers and continue on existing wood poles to the Warner Substation (located at the intersection of S2 and SR 79). The 230 kV portion of this segment would include tubular steel poles with lattice towers where inaccessible terrain requires helicopter construction. The new 230 kV towers would also support the existing 69 kV line located along SR79; this circuit would be underbuilt on the new towers and the existing wood poles would be removed from the intersection of SR76 and SR79 south to the Santa Ysabel Substation on SR78.

ROW and Access Roads. New ROW would be required in the Central Link ranging from 200 to 300 feet in width, and construction of 36.4 miles of new access roads would be required. This would result in over 182.3 acres of disturbance.

Central East Substation. The proposed Central East Substation (see **Figure 4B**), requiring approximately 106 acres of disturbance, would be located on a privately owned parcel that SDG&E is purchasing. It is located in an undeveloped rural area, about a mile west of S2 and about 1.2 miles south of the S2/S22 intersection in northern San Diego County. The electrical facilities of the substation would include 500 kV and 230 kV air insulated, breaker and half design, electrical buses, one 500 kV transmission circuit, two 230 kV transmission circuits, two 1120 MVA transformer banks, one series capacitor, two 230 kV shunt capacitors and associated breakers, disconnect switches, protective relays, metering, and Supervisory Control and Data Acquisition (SCADA) equipment. The substation general arrangement would include the 500 and 230 kV transmission lines, as well as 500/230 kV transformer banks.

Inland Valley Link

Project Location. **Figure 5A, Inland Valley Link**, and **Figure 5B, Detail of Ramona Area**, illustrates the 25.5-mile project route in this area which would extend from southwest of Santa Ysabel, south of central Ramona, and end at the existing Sycamore Canyon Substation on the north edge of Marine Corps Air Station Miramar. The first segment in this link would generally parallel the existing SDG&E 69 kV transmission line that connects Santa Ysabel and Creelman Substations, except for a mile-long segment would diverge west of the 69 kV line to avoid United States Forest Service property. Entering Mount Gower County Preserve from the northwest, the lines would be installed underground, first along a dirt road within the Preserve, then continuing underground in Gunn Stage Road and San Vicente Road. The lines would transition to overhead on San Vicente Road just west of Wildcat Canyon Road, then cross San Vicente Road to the north side for about one mile. At this point, the route would follow an existing SDG&E 69 kV transmission line to the southwest to the Sycamore Canyon Substation.

Land Ownership and Land Use. Land ownership in the Inland Valley Link includes SDG&E (16.9 miles), BLM (1.2 miles), Department of Defense – Marine Corps Air Station Miramar (0.7 miles), Vista Irrigation District (0.1 miles), San Diego County (1.1 miles), and private (6.1 miles). Land use in this link includes undeveloped open space (13.1 miles), agricultural land (1 mile), recreation (7 miles) and public streets in residential areas (through which the route would pass for 4.2 miles underground in roads).

Project Configuration. New towers would average 120 feet tall, and would include 125 double circuit 230 kV tubular steel poles with lattice structures being used in areas where limited vehicle access would require helicopter construction. In addition, two tubular steel cable poles would be located at each end of the underground segment south of Ramona to transition between overhead and underground segments, each supporting conductors for a single 230 kV circuit.

ROW and Access Roads. Much of the Inland Valley Link would parallel existing 69 kV transmission lines, but 13 miles of new ROW would need to be acquired, ranging from 60 to 200 feet in width. Nearly 8 miles of new access roads would be required, resulting in 24.7 acres of disturbance.

Coastal Link

Project Location. A new, 13.6-mile single-circuit 230 kV transmission line would begin at the existing Sycamore Canyon Substation in Rancho Peñasquitos and terminate at the existing Peñasquitos Substation in the Torrey Hills area of the City of San Diego, as illustrated in **Figure 6A, Coastal Link** and **Figure 6B, Rancho Peñasquitos Detail**. A 5.9-mile segment from the Sycamore Canyon Substation to the Chicarita Substation would turn northwest and would be installed within existing SDG&E ROW. Immediately west of Chicarita Substation a 4.3-mile underground segment would start. The first 1.9 miles would be in a 50-year-old dedicated SDG&E utility right-of-way that is currently vacant. The 230 kV line would be constructed within Park Village Drive and the Los Peñasquitos Canyon Preserve for 2.4 miles (underground), then transition to overhead in another SDG&E corridor at the western end of Park Village Drive. For the last 3.3 miles, the new 230 kV circuit would be overhead within existing SDG&E ROW into the Peñasquitos Substation.

Land Ownership and Land Use. Land ownership in the Coastal Link includes: SDG&E right-of-way (11.8 miles), private property (0.1 miles), City of San Diego (1.4 miles), and Department of Defense – Marine Corps Air Station Miramar (0.3 miles). Land use in this link includes commercial (0.1 miles) open space and parks (11.2 miles), utilities and transportation (1.8 miles) and residential (0.4 miles). The Coastal Link would traverse 1.6 miles of Los Peñasquitos Canyon Preserve.

Project Configuration. The Coastal Link would require construction of 48 new structures in three segment configurations:

- The link would begin within an existing right-of-way currently containing a double-circuit 230 kV line and a single-circuit 69 kV line. The existing 69 kV circuit would be relocated to 30 new 230 kV double circuit tubular steel poles, and the existing wood H-frame structures would be removed. The new structures would be designed to match the existing double circuit 230 kV structures east of Chicarita Substation.
- West of Chicarita, the new 230 kV line would be installed underground through the vacant ROW, in Park Village Drive, and below a trail in the Los Peñasquitos Canyon Preserve. It would then enter an existing SDG&E right-of-way at the west end of the preserve segment.
- The line would transition overhead into a segment currently containing double circuit 230 kV line on tubular steel poles and a wood H-frame supporting 69 and 138 kV lines. In this segment, the wood H-frame towers would be removed and the new 230 kV circuit would be constructed on 16

tubular steel poles with the 69/138 kV line on the same new tower. This segment would connect to Peñasquitos Substation.

Substation Upgrades. The Coastal Link would include modifications to the existing Sycamore Canyon and Peñasquitos Substations. The Sycamore Canyon Substation would be modified to accommodate termination of three new 230 kV transmission circuits (the new double circuit entering the substation from the new Central East Substation and the new single circuit exiting the substation towards the Peñasquitos Substation). The scope includes installation of support structures, circuit breakers, disconnect switches, insulators, foundations, control cable, power cable, protective line relays, and communication and SCADA interfaces. The Peñasquitos Substation would be modified to accommodate the new 230 kV circuit; all improvements at this site would be within the existing substation fencing.

ROW and Access Roads. Approximately 0.4 miles of new access roads would be required in this segment, resulting in disturbance of about 1.1 acres of land.

Other System Upgrades

The SRPL Project would require upgrades to three existing substations described above (Imperial Valley, Sycamore Canyon, and Peñasquitos), as well as construction of a new substation (Central East Substation), also described above. In addition, the Sunrise Powerlink Project would require that SDG&E upgrade other portions of its electric system that are physically separate from the corridor described in the five links above:

- A reconductor² of the existing Sycamore Canyon to Elliot 69 kV transmission line would be required. Along this 8.5-mile segment, new conductors would be installed primarily on existing towers, but several towers would have to be replaced with new towers in order to support the weight of the new lines.
- The San Luis Rey Substation would be modified with the addition of a third 230/69 kV transformer and a 230 kV, 69 MVAR shunt capacitor.
- The South Bay Substation would be modified with the addition of a 69 kV, 50 MVAR shunt capacitor.

The environmental effects of these upgrades will be addressed in the EIR/EIS.

E. Affected Jurisdictions

Overall, the proposed Sunrise Powerlink Project would be within Imperial County for 56.5 miles and within San Diego County for 93.3 miles. The route passes through the following jurisdictions:

- BLM land: 33.0 miles
- Unincorporated Imperial County: 23.5 miles
- Anza-Borrego Desert State Park (California Department of Parks and Recreation) 22.6 miles
- Unincorporated San Diego County: 53.2 miles
- Department of Defense (MCAS Miramar): 2.5 miles
- City of San Diego : 14.7 miles

² Reconductoring is the installation of new, higher capacity conductors, generally on existing towers (some new towers would be required when existing towers cannot support the greater weight of the new conductors).

- City of Poway: 0.3 miles

F. Potential Environmental Effects

In accordance with CEQA and NEPA guidelines, the CPUC and BLM intend to prepare a joint EIR/EIS to evaluate potential environmental effects of the Proposed Project, and to propose mitigation measures to reduce any significant effects identified. The EIR/EIS will identify feasible alternatives, compare the environmental impacts of the alternatives to the Proposed Project, and propose mitigation to reduce their effects.

Based on preliminary analysis of the Proposed Project and review of documents submitted by SDG&E and other parties to the CPUC's CPCN proceeding, completion of the Proposed Project may have a number of environmental effects. Potential issues and impacts to the existing environment include those listed in Attachment 1. No determinations have yet been made as to the significance of these potential impacts; such determinations will be made in the environmental analysis conducted in the EIR/EIS after the issues are considered thoroughly. To assist the reader in understanding the range of impacts that could be considered, and to provide a guide for scoping comments, Attachment 2 includes CEQA Checklist questions that typically would be evaluated in an EIR. In addition to analysis of the issues listed in Attachment 1 and other issues raised in the scoping process, the EIR/EIS will evaluate the cumulative impacts of the project in combination with other past, present, and planned projects in the area.

Mitigation Measures

SDG&E has proposed measures that could reduce or eliminate potential impacts of the Proposed Project. The effectiveness of these measures (called "applicant proposed measures" or APMs) will be evaluated in the EIR/EIS, and additional measures ("mitigation measures") will be developed to further reduce impacts, if required. When the CPUC and BLM make their final decisions on the Proposed Project, they will define the mitigation measures to be adopted if the project or an alternative is approved, and the CPUC will require implementation of a mitigation monitoring and reporting program.

G. Alternatives

In compliance with CEQA and NEPA, an EIR/EIS must describe a reasonable range of alternatives to the project or project location that could feasibly attain all or most of the basic project objectives and avoid or lessen any of the significant environmental impacts of the Proposed Project. Alternatives may include different routes for the transmission line or alternative methods of providing electric power to the SDG&E area. Additionally, the No Project/No Action Alternative must also be analyzed in the EIR/EIS. The No Project/No Action Alternative will describe the situation that would likely occur in the absence of Proposed Project implementation. Further, the EIR/EIS must evaluate the comparative merits of the alternatives.

In the Proponent's Environmental Assessment (PEA) for SRPL, SDG&E evaluated a variety of project alternatives, including alternative routes, alternative transmission projects, and non-transmission alternatives. These alternatives are briefly described below and are illustrated, in part, in **Figure 7 (SDG&E Alternatives Fully Evaluated and Carried Forward in PEA)** and **Figure 8 (SDG&E Alternatives Considered and Eliminated)**.

As part of the environmental review process for SRPL, the CPUC and BLM will re-evaluate the feasibility of SDG&E's alternatives and determine whether or not any of them meet CEQA and NEPA requirements for being carried to full analysis. In addition, the CPUC and BLM will likely develop other alternatives for evaluation in the EIR/EIS. New alternatives developed during the

environmental review process for SRPL could be based on the input received during the scoping process and on the impacts of the Proposed Project identified during analysis.

Alternatives Considered by SDG&E

In its August 2006 PEA, SDG&E included a discussion of alternatives in two categories: those with impact analysis presented in the PEA, and those eliminated without detailed PEA analysis. Both categories of alternatives are documented in PEA Section 3 (Alternatives) and also in PEA Appendix B (Routing & Siting Study). **All of the alternative routes identified by SDG&E will be considered in the EIR/EIS, but these alternatives will not necessarily be carried forward and fully evaluated in the EIR/EIS. Additional alternatives not listed here, developed in response to agency or public comments or by the EIR/EIS team, may be considered in the EIR/EIS.**

Following is a summary of the alternatives presented by SDG&E in its PEA, along with SDG&E's rationale for retaining or eliminating each alternative. This information and SDG&E's conclusions will be independently reviewed in the EIR/EIS.

SDG&E Alternatives Fully Evaluated and Carried Forward in the PEA

SDG&E evaluated the following eight alternative routes in its PEA, as well as an alternative substation site, the Central South Substation Alternative. These alternatives (identified using names and mileposts [MP] shown on **Figure 7**) are listed below.

- **Western Alternative** (replaces proposed route from MP 4.0–54.2). Avoids agricultural lands and more heavily traveled highways.
- **SR-78 East Alternative** (replaces proposed route from MP 61.7–68.2). Follows more of SR 78 rather than smaller unpaved roads to the south.
- **SR-78 West Alternative** in combination with **S2 Alternative** (replaces proposed route from MP 78 to MP 90). Avoids Grapevine Canyon in ABDSP.
- **Borrego Valley Alternative**, including Borrego 500/12 kV Substation in Borrego Springs (in combination with **SR-78 East Alternative**, replaces proposed route from MP 61.7–86.1). Requires a shorter route segment through ABDSP (though outside of existing corridor and within Pinyon Ridge Wilderness Area).
- **SR-79 Alternative** (replaces proposed route from MPs 91–97.6, 100.2–106.1, 103.5–110.3). Follows existing transmission line rights-of-way or (for southern segment) would reduce visibility of new 230 kV lines through Santa Ysabel Valley.
- **Ramona Alternative** (replaces proposed route from MPs 117.1–123.3) – avoids use of paved roadways (Gunn Stage Road and San Vicente Road). Follows existing transmission rights-of-way.
- **Northwest Corner Alternative** (replaces proposed route in Rancho Peñasquitos area from MP 143.8–146.7). Follows existing SDG&E easement; avoids use of Park Village Drive and Peñasquitos Canyon Preserve.
- **Mannix-Dormouse Road Alternative** (in combination with Northwest Corner Alternative, replaces proposed route in Rancho Peñasquitos area from MP 143.8–146.7). Follows existing SDG&E easement; avoids use of Park Village Drive and Peñasquitos Canyon Preserve.
- **Central South Substation Alternative** would be located about one mile south of the community of Santa Ysabel. This location of the 500/230 kV substation would require that the 500 kV transmission line continue about 18 miles past the currently proposed location of the Central East Substation.

SDG&E Alternatives Eliminated from Full Evaluation in the PEA

SDG&E considered and eliminated several sets of alternatives during its pre-filing study period, as described below and illustrated on **Figure 8**. The PEA and its Appendix B, Routing & Siting Study, define the rationale for SDG&E's elimination of these alternatives in more detail. Key points are summarized below.

Routing and Siting Alternatives Considered and Eliminated by SDG&E

- **Alternative Segment A**, Northern Borrego Springs: The route follows highways (SR 86 and S22), but was eliminated by SDG&E because it passes through more populated areas and is longer than the proposed route.
- **Alternative Routes B, C, D**: The 500 kV line would leave Imperial Substation parallel to existing 500 kV Southwest Powerlink (SWPL) into San Diego County, then turn north following existing roads or transmission corridors through portions of Cleveland National Forest and Cuyamaca Rancho State Park. Eliminated by SDG&E due to reliability concerns of locating a new 500 kV line near SWPL, effect on residential properties and sensitive species, and because of the Cleveland National Forest approval process for amending Forest Plan.
- **Alternative Segment 1**: A 500 kV line would exit Imperial Valley Substation following existing IID 92 kV transmission line to Narrows Substation. Eliminated by SDG&E because it would affect more agricultural land, pass through Desert Range Military Facility which has height restrictions, and affect flat-tailed horned lizard Designated Management Areas.
- **Alternative Segment 2**: This segment would be a 500 kV line following SR78 from the Imperial Valley Substation to Narrows Substation. It was eliminated by SDG&E because it would be located within agricultural land and also passes through areas with military structure height restrictions.
- **Alternative Segment 3, 3B, 3D**: These segments are variations of the Western Alternative (see SDG&E Alternatives Fully Evaluated in PEA, above) that were considered as routes for connecting the SWPL corridor with the existing IID 92 kV corridor along the western Imperial Valley floor. They were eliminated by SDG&E because of potential conflicts with existing land uses.
- **Alternative Segment 4**: Install 500 kV line from the Imperial Valley Substation to SR78/S2 Junction via S2 through western ABDSP. Requires also Alternative Segments 7 or 8. Eliminated by SDG&E because of the high-value scenic viewshed, greater amounts of bighorn sheep habitat, and state designated wilderness.
- **Alternative Segment 7**: The 500 kV line would follow S2 from its intersection with SR78 to its intersection with S22 and would avoid Grapevine Canyon within the ABDSP. It would require use of Alternative Segments 6 or 4. Eliminated by SDG&E because of presence of agricultural land.
- **Alternative Segment 6/8**: Install overhead 500 kV line along SR78 and S2 to avoid Grapevine Canyon by following roadways to the south and west. Eliminated by SDG&E due to number of schools and residences (it would pass through the community of Julian) and occurrence of sensitive species and habitat.
- **Alternative Segment 10**: Santa Ysabel Substation to Creelman Substation via SR78. Eliminated by SDG&E because it would pass through central Ramona and other populated areas, have greater agricultural impacts, and would be more difficult to construct.
- **Alternative Segment 11**: This segment follows an existing transmission line for a few tenths of a mile through a corner of the Cleveland National Forest northeast of Ramona. The proposed project route was defined to avoid the Forest so its permitting requirements would not apply; as a result, this segment was eliminated by SDG&E.

- **Alternative Segment 12, 14, 15:** Creelman Substation to Chicarita via Poway Substation and Warren Canyon Substation, via two different routes. Eliminated by SDG&E because these routes would affect more residences, parks, and schools, and do not follow existing transmission corridors.
- **Alternative Segment 13:** Creelman Substation to Peñasquitos via Scripps Substation. Eliminated by SDG&E because the route passes through residential areas with schools and follows no existing transmission corridors. It also passes through greater portions of Miramar MCAS.
- **Alternative Segment 16:** North of Peñasquitos. This route would follow a new corridor from the Ramona area to the Escondido Substation, then follow an existing 69 kV line to the Peñasquitos Substation. This route was eliminated by SDG&E because it would be longer than other segments, and would be located in a more populated area than the proposed segment.

Substation Sites Eliminated by SDG&E

- **Alternative Warner West Substation Area.** This site was eliminated by SDG&E because of its greater agricultural and residential land uses, higher number of archaeological sites, sensitive species, and greater number of private landowners.

System Alternatives Considered and Eliminated by SDG&E

- **Energy Efficiency:** Eliminated because it would not meet reliability or renewable objectives and because it would not provide sufficient demand reduction to meet anticipated demand growth.
- **In-Area Generation:** SDG&E considered addition of 1623 MW of generation between 2010 and 2015. Eliminated because it would not meet renewable or economic objectives and would result in additional environmental impacts.
- **Rooftop Solar:** Eliminated because SDG&E predicted it would provide 150 MW by 2015, insufficient to meet project objectives, and would be expensive.
- **New 230 kV lines** between Imperial Valley and Miguel Substations located in Mexico (Comisión Federal de Electricidad [CFE]). Eliminated because Miguel Substation is heavily loaded would have greater impacts, and would have permitting challenges.
- **Full Loop Alternative** would be a future expansion beyond the proposed Sunrise Powerlink Project, expanding the SDG&E 500 kV system to the north to incorporate the LEAPS. Eliminated because it would require additional time for planning and permitting, and would have greater impacts than the proposed project.
- **Demand Response**, which would target reduced electricity usage when energy costs are at their highest, was rejected because its components are already part of SDG&E's Long Term Resource Plan but would not meet project objectives.
- **Distributed Generation** would require installation of small scale fossil fuel systems that would reduce net load on SDG&E's transmission and distribution system. Eliminated because it would not meet objectives, would have high cost, high air quality impacts, and regulatory hurdles for permitting.
- **Imperial Valley-Miguel 500 kV #2** (second SWPL): There is inadequate transmission capacity available from Miguel Substation, transfers impacts to other areas, and would not meet project objectives.
- **Four new 230 kV circuits** (rather than one 500 kV line) — overhead and/or underground — from Imperial Valley Substation into San Diego County. Would provide similar power import capability but would have greater impacts and greater cost.
- A combination of new SDG&E/SCE transmission lines in the **Talega-Escondido and Valley-Serrano** corridors could be combined with the **Lake Elsinore Advanced Pumped Storage (LEAPS) Project** to allow hydroelectric power generated at LEAPS to be transmitted to the San Diego area. Eliminated because LEAPS is not approved and faces regulatory hurdles.

Alternatives to be Evaluated in the EIR/EIS

As discussed above, the EIR/EIS Team will re-evaluate all the alternatives considered by SDG&E, as well as all alternatives suggested during the scoping process. In addition, the Team will evaluate alternatives addressed in regional transmission planning groups and alternatives developed by the Team itself.

H. Public Scoping Meetings

The CPUC and BLM will conduct public Scoping Meetings in five locations in the project area, as shown in Table 1. The purpose of the scoping meetings is to present information about the Proposed Project and the CPUC and BLM's decision-making processes, and to listen to the views of the public on the range of issues relevant to the scope and content of the EIR/EIS.

Everyone is encouraged to attend these meetings to express their concerns about the project and to offer suggestions regarding alternatives to the project as proposed, including alternatives to routing through Anza-Borrego Desert State Park. The meeting in Mission Valley has been specifically designated for people to provide input on routing alternatives to the Anza-Borrego Desert State Park. However, attendees at the Mission Valley meeting may also comment on any other topics. In addition, it should be noted that comments on alternatives are welcome at all other meeting locations.

Table 1. Public Scoping Meetings		
Location	Day, Date, Time	Directions
El Centro Imperial County Board of Supervisors 940 West Main St., Suite 219 El Centro, CA 92243	Monday October 2, 2006 4:30pm to 8:00pm	<u>From the west</u> , take I-8 to Exit 114 directly onto northbound Imperial Ave. After 1.6 miles on Imperial Ave., turn right on W. Main Street. The Board of Supervisors building is across from the courthouse. <u>From the north</u> , take Hwy 86 south into El Centro and turn left on W. Main Street. The Board of Supervisors building is across from the courthouse.
Ramona Charles Nunn Performing Arts Center 1521 Hanson Lane Ramona, CA 92065	Tuesday October 3, 2006 4:00pm to 6:00pm 7:00pm to 9:00pm	<u>From the south</u> take I-15 to Scripps Poway Pkwy (S4) eastbound. After about 8 miles turn left on SR 67 and continue into Ramona, following directions below. <u>From east or west on SR 67</u> (also Main Street) in Ramona, turn southeast onto Hunter St. At the end of the street, take a sharp left onto Rowley Ave. Take the first right onto Ramona St, then the first left on Hanson Lane. The PAC is 0.5 miles further on the left, next to the high school.
Borrego Springs Borrego Springs Resort 1112 Tilting T Drive Borrego Springs, CA 92004	Wednesday October 4, 2006 2:00pm to 4:30pm 6:00pm to 8:30pm	<u>From the west</u> , take S22 which turns right onto Palm Canyon Dr. Proceed 1.4 miles. At the turnaround, turn right (south) onto Borrego Springs Road and drive south 1.8 miles. Turn left on Tilting T drive and follow its curves for 1.3 miles. <u>From the east</u> , take S22 which turns west in Borrego Springs as Palm Canyon Drive. Turn left on Borrego Valley Rd and your first right onto Tilting T Drive. Enter through the Borrego Springs Resort arches. The meeting room is in the main building.
San Diego–Mission Valley Hilton Hotel 901 Camino Del Rio S (near intersection of I-8 and SR 163) San Diego, CA 92108	Thursday October 5, 2006 2:00pm to 5:00pm	<u>From north or south on SR 163</u> , take the I-8 East and exit immediately onto Mission Center Rd toward Camino del Rio South. After almost a mile, the road curves sharply to the right onto Camino del Rio S. <u>From the west on I-8</u> , take exit 5 toward Auto Circle/Mission Center Rd. At the end of the ramp, turn right onto Camino del Rio S.
San Diego–Rancho Peñasquitos Doubletree Golf Resort 14455 Peñasquitos Drive San Diego, CA 92129	Thursday October 5, 2006 6:30pm to 9:00 pm	<u>From the north, take I-15</u> to Exit 21/Carmel Mountain Road. Turn right (west) at the end of the exit ramp, then take the first right. The Doubletree is immediately on the right. <u>From the south, take I-15</u> to Exit 21/Carmel Mountain Road. Turn left (west) at the end of the exit ramp, then take the first right. The Doubletree is immediately on the right.

I. Scoping Comments

At this time, the CPUC and BLM are soliciting information regarding the topics and alternatives that should be included in the EIR/EIS. Suggestions for submitting scoping comments are presented at the end of this section. **All scoping comments must be received by October 20, 2006.** You may submit comments in a variety of ways: (1) by U.S. mail, (2) by electronic mail, (3) by fax, or (4) by attending a Public Scoping Meeting (see times and locations in Table 1 above) and making a verbal statement or handing in written comments at the scoping meetings.

By Mail: If you send comments by U.S. mail, please use first-class mail and be sure to include your name and a return address. Please send written comments on the scope and content of the EIR/EIS to:

Billie Blanchard, CPUC / Lynda Kastoll, BLM
c/o Aspen Environmental Group
235 Montgomery Street, Suite 935
San Francisco, CA 94104-3002
Fax and Voicemail: (866) 711-3106

By Electronic Mail: E-mail communications are welcome; however, please remember to include your name and return address in the e-mail message. E-mail messages should be sent to sunrise@aspeneg.com.

By Fax: You may fax your comment letter to our information line at (866) 711-3106. Please remember to include your name and return address in the fax, to write legibly, and use black or blue ink.

A **Scoping Report** will be prepared, summarizing all comments received (including oral comments made at the Scoping Meetings). This report will be posted on the project website at: <http://www.cpuc.ca.gov/environment/info/aspen/sunrise/sunrise.htm>, and copies will be placed in local document repository sites listed in Table 2 below. In addition, a limited number of copies will be available upon request to the CPUC or BLM Project Managers.

Suggestions for Effective Participation in Scoping

Following are some suggestions for preparing and providing the most useful information for the EIR/EIS scoping process.

- 1. Review the description of the project** (see Section C of this Notice of Preparation and the maps provided). Additional detail on the project description is available on the project website where SDG&E's Proponent's Environmental Assessment may be viewed.
- 2. Review the CEQA impact assessment questions** (see Attachment 2).
- 3. Attend the scoping meetings** to get more information on the project and the environmental review process (see times and dates in Table 1 above).
- 4. Submit written comments** or attend the scoping meetings and **make oral comments**. Explain important issues that the EIR/EIS should cover.
- 5. Suggest mitigation measures** that could reduce the potential impacts associated with SDG&E's Proposed Project.
- 6. Suggest alternatives** to SDG&E's Proposed Project that could avoid or reduce the impacts of the Proposed Project.

J. For Additional Project Information

Internet Website. Information about this application and the environmental review process will be posted on the Internet at:

<http://www.cpuc.ca.gov/environment/info/asp/sunrise/sunrise.htm>

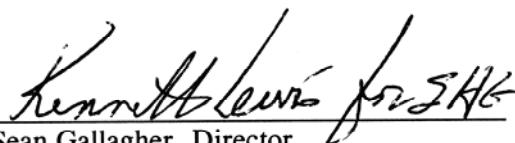
This site will be used to post all public documents during the environmental review process and to announce upcoming public meetings. In addition, a copy of SDG&E's PEA may be found at this site, and the Draft EIR/EIS will be posted at the site after it is published.

Project Information Hotline. You may request project information by leaving a voice message at (866) 711-3106 or sending a fax, using the same telephone number.

Document Repositories. Documents related to the SRPL Project and the EIR/EIS will be made available at the sites listed in Table 2 on the next page.

K. Issuance of NOP

The California Public Utilities Commission hereby issues this Notice of Preparation of an Environmental Impact Report.


Sean Gallagher, Director
Energy Division
California Public Utilities Commission

Date: September 11, 2006

Notice of Preparation – Notice of Public Scoping Meetings
Sunrise Powerlink Project

Table 2. Repository Sites

Imperial County - Library Sites		
Brawley Public Library	400 Main Street, Brawley, CA 92227	(760) 344-1891
Calexico City Library	850 Encinas Avenue, Calexico, CA 92231	(760) 339-2470
El Centro Public Library	539 W State Street, El Centro, CA 92243	(760) 337-4565
Imperial Public Library	200 W 9th Street, Imperial, CA 92251	(760) 355-1332
Imperial County – Bureau of Land Management Offices		
El Centro Field Office	1661 S 4th Street, El Centro, CA 92243	(760) 337-4400
Palm Springs South Coast Field Office	690 W. Garnet Avenue, North Palm Springs, CA 92258	(760) 251-4800
San Diego County – Library Sites		
Borrego Public Library	571A Palm Canyon Drive, Borrego Springs, CA 92004	(760) 767-5761
Carmel Valley Branch Library	3919 Townsgate Drive, San Diego, CA 92130	(858)-552-1668
Julian Branch Library	1850 Highway 78, Julian, CA 92036	(760) 765-0370
Lakeside Public Library	9839 Vine Street, Lakeside, CA 92040	(619) 443-1811
Poway Branch Library	13137 Poway Road, Poway, CA 92064	(858) 513-2900
Ramona Public Library	1406 Montecito Road, Ramona, CA 92065	(760) 738-2434
Rancho Peñasquitos Library	13330 Salmon River Road, San Diego, CA 92129	(858) 538-8159
San Diego City Central Library	820 E Street, San Diego 92101	(858) 484-4440
Scripps Miramar Ranch Library	10301 Scripps Lake Drive, San Diego, CA 92131	(858) 538-8158
San Diego County – Bureau of Land Management Offices		
North Palm Springs Field Office	690 W Garnet Avenue, North Palm Springs CA 92258	(760) 251-4849
Southern California – California Public Utilities Commission Offices		
Los Angeles Office	320 W. 4th Street, Ste 500, Los Angeles CA 90013	(213) 576-7000
San Diego Office	1350 Front Street, Rm. 4006, San Diego CA 92101	(619) 525-4217

Attachment 1. Summary of Potential Impacts: Sunrise Powerlink Project ³

Environmental Issue Area	Potential Issues or Impacts
Aesthetics / Visual	Visual contrast, industrial character, view blockage, and skylining ⁴ resulting from the placement of the structures in all project segments: <ul style="list-style-type: none">• New 500 kV transmission line through BLM land outside of designated utility corridor• New 500 kV transmission line through Anza-Borrego Desert State Park• New 500 kV and 230 kV transmission lines through inland and coastal San Diego County
Agricultural Resources	<ul style="list-style-type: none">• Imperial Valley Link crosses Prime Farmland, Farmland of Statewide Importance, and Williamson Act Non-Prime Farmland
Air Quality	<ul style="list-style-type: none">• Impacts during construction would occur when heavy equipment, support vehicles, and other internal combustion engines creates fugitive dust and/or generates exhaust containing: carbon monoxide (CO), reactive organic compounds (ROC), nitrogen oxide (NOx), sulfur oxides (SOx), and particulate matter (PM10).• Impacts would result from fugitive dust generated from ground clearing, grading, vehicle traffic on the access roads, and vehicle traffic at the construction sites.• Potential ongoing impacts from emissions and fugitive dust produced during operation and maintenance of proposed transmission line.• Potential air quality impacts from power plants providing imported power.• Potential impacts resulting from violation of the Federal Air Quality Conformity Rule in nonattainment areas for one or more air pollutants.• Potential temporary and long-term impacts from toxic air contaminants including diesel particulate matter that have localized effects.
Biological Resources	<ul style="list-style-type: none">• Construction activities and project facilities would result in temporary and permanent loss of native wildlife and habitat.• Loss of habitat for sensitive species designated by State and federal resource agencies.• Construction and operation of the proposed project could disturb wildlife and cause changes in wildlife behavior.• Construction activities may conflict with local policies or ordinances protecting biological resources.
Cultural & Paleontological Resources	<ul style="list-style-type: none">• Construction of new towers and access roads could damage or destroy historic and archaeological sites or traditional cultural properties.• Temporary use of staging areas and conductor pull sites could damage or destroy historic and archaeological sites or traditional cultural properties.• In the Imperial Valley Link, excavation of tower footings and grading of access spur roads on the transmission line corridor could disturb outcroppings of the following areas of high or undetermined paleontological sensitivity: Bautista Beds, Palm Springs Formation, and Imperial Formation.• In the Central Link, excavation of tower footings and grading of access spur roads on the transmission line corridor could disturb 2.4 miles of a scientifically significant paleontological area.• In the Inland Valley Link, excavation of tower footings and grading of access spur roads on the transmission line corridor could disturb outcroppings of a scientifically significant paleontological area.• In the Coastal Link, construction could damage paleontological resources of unknown significance in the Mission Valley Formation, Friars Formation, Poway Formation, and Santiago Formation.

³ A thorough and detailed analysis of impacts will be completed for the EIR/EIS. This overview is presented to assist the public and agencies in presenting scoping comments.

⁴ Skylining is the aspect of viewing transmission towers, which are highly visible when located on ridge lines.

Attachment 1. Summary of Potential Impacts: Sunrise Powerlink Project ³

Geology and Soils	<ul style="list-style-type: none"> • Highly corrosive soils could damage uncoated steel in all Links of the Proposed Project. • Soil erosion on low fill slopes and steeply graded areas could result in sedimentation of water bodies. • Soil volume changes resulting from change in moisture content in the Inland Valley and Coastal Links could damage proposed facilities. • Seismic activity in the San Jacinto, Elsinore, Coronado Bank, Superstition Hills, Rose Canyon, and Earthquake Valley Faults, which are known to be active, could damage project facilities. The towers along the alignment in this area would be subject to severe seismic shaking within the lifetime of the Proposed Project. • Ground surface rupture could occur where the proposed transmission line would cross active fault lines. • Landslides, mudslides, or other related ground failures from seismic activity, could occur and damage facilities, particularly where the proposed transmission line would cross active fault lines.
Hazards and Hazardous Materials	<ul style="list-style-type: none"> • Wildfires could be caused by the transmission lines or could damage Proposed Project facilities. • Temporary relocation of residents along parts of the project might be required where helicopter construction is required (FAA safety regulations of helicopter flight paths). • Improper storage or handling of hazardous materials and/or hazardous wastes during project construction, operations, or maintenance could present hazards to construction workers or the public. • Leaking or spilling of petroleum or hydraulic fluids from construction equipment or other vehicles during project construction, operation, or maintenance could contaminate soils, surface waters, or groundwater. • The inadvertent uncovering of hazardous materials during excavation activities could cause toxic releases to the environment.
Hydrology and Water Quality	<ul style="list-style-type: none"> • Increased surface water runoff, erosion, siltation, and sedimentation could diminish water quality. • Water quality of streams or washes could be diminished from violation of water quality standards or waste discharge requirements. • Tsunami or seiche at crossings of creeks associated with Lake Henshaw could damage project facilities. • Mudflows in the Poway and Miramar Reservoir watersheds along portions of the Coastal Link could damage project facilities.
Land Use	<ul style="list-style-type: none"> • Possible conflicts with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. • Construction would temporarily disturb the land uses it traverses or adjacent land uses. • Operation would result in permanent preclusion of land uses it traverses or adjacent land uses.
Noise	<ul style="list-style-type: none"> • During construction, noise generated by construction equipment could create nuisance to nearby residents, park users, or other sensitive receptors. Volume range could be 80 to 100 dBA at a range of 50 feet from the active construction site. • Corona noise generated during the operation of the proposed transmission line would increase ambient noise levels surrounding the corridor. • Construction or corona noise in residential areas along the proposed transmission corridor could violate local noise ordinances (for volume and hours of operation).
Socioeconomics	<ul style="list-style-type: none"> • Employment of construction personnel could be beneficial to regional economy. • Remote areas of Imperial and San Diego Counties could lose access to temporary housing due to the possible influx of construction labor, if housing is required during construction of the proposed transmission line. • Additional property-taxes could be provided to local jurisdictions. • Potential for project impacts to disproportionately affect low-income or minority populations (environmental justice).
Public Services and Utilities	<ul style="list-style-type: none"> • Construction activities could cause increased usage of public resources, services, and utilities. • Construction activities could result in increased generation of waste and disposal needs.

Attachment 1. Summary of Potential Impacts: Sunrise Powerlink Project ³

Recreational Resources	<ul style="list-style-type: none">• Construction or operation could cause conflicts with established or pending resource management or conservation plans.• Recreational land users would be disturbed by construction and operation where the proposed transmission line would cross or be near Anza-Borrego Desert State Park, Off-Highway Vehicle (OHV) designated areas, open spaces and parks, the Trans-County Trail, the Pacific Crest Trail, and the San Dieguito River Park Trail.• Road closures and increased traffic during construction activities may impede access to recreational areas.
Transportation and Traffic	<ul style="list-style-type: none">• Construction could result in a temporary disruption of traffic flow, disruption of transit services, or disruption of rail services:
Other Issues	<ul style="list-style-type: none">• Cumulative impacts could occur (considering other projects that are proposed or under construction in the project area)• Growth-inducing effects could occur

Source: SDG&E SRPL PEA (August 4, 2006) and EIR/EIS Team.

Attachment 2

Environmental Checklist

Following are the questions included in the California Environmental Quality Act's (CEQA) Appendix G, Environmental Checklist Form. These are issues that may be evaluated in an Environmental Impact Report, if they are determined to be relevant to the project. This list is provided only to provide the reader with a general idea of the types of impacts that will be considered in the EIR/EIS.

I. AESTHETICS. Would the project:

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Substantially degrade the existing visual character or quality of the site and its surroundings?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

II. AGRICULTURE RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Involve other changes in the existing environmental which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- Expose sensitive receptors to substantial pollutant concentrations?
- Create objectionable odors affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES. Would the project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

V. CULTURAL RESOURCES. Would the project:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
- Directly or indirectly destroy a unique paleontological resource or site unique geologic feature?
- Disturb any human remains, including those interred outside of formal cemeteries?

VI. GEOLOGY AND SOILS. Would the project:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to the California Division of Mines and Geology Spec. Pub. 42)
 - Strong seismic groundshaking?
 - Seismic-related ground failure, including liquefaction?
 - Landslides?
- Result in substantial soil erosion or the loss of topsoil?
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?

VII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?

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- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

VIII. HYDROLOGY AND WATER QUALITY. Would the project:

- Violate any water quality standards or waste discharge requirements?
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?
- Create or contribute runoff water which would exceed the capacity of existing or planned storm-water drainage systems or provide substantial additional sources of polluted runoff?
- Otherwise substantially degrade water quality?
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
- Inundation by seiche, tsunami, or mudflow?

IX. LAND USE AND PLANNING. Would the project:

- Physically divide an established community?
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- Conflict with any applicable habitat conservation plan or natural community conservation plan?

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

X. NOISE. Would the project result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

XI. POPULATION AND HOUSING. Would the project:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extensions of roads or other infrastructure)?
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

XII. PUBLIC SERVICES AND UTILITIES.

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - Fire protection?
 - Police Protection?
 - Schools?
 - Parks?
 - Other public facilities?
- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- Comply with federal, state, and local statutes and regulations related to solid waste?

XIII. RECREATION. Would the project:

- Increase the use of existing neighborhood, and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

XIV. TRANSPORTATION/TRAFFIC. Would the project:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections?
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses?
- Result in inadequate emergency access?
- Result in inadequate parking capacity?
- Conflict with adopted policies supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

GENERAL ISSUES:

- Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?
- Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)
- Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

EXHIBIT P

required and equipment needs) for the San Felipe Substation if that facility were to be expanded to a 500/230 kV substation.

Response: The text below includes a slight modification to the response to ALT-10 and ALT-19 that was sent on 10/31/06. This is a change to the email attachment version that was sent 10/31/06, but was replaced in the hard copy binders that were sent. The only correction is replacing the previous Marron Valley for Barrett Smith (CalTrans Yard). Please use this replacement paragraph for the responses:

Attachment ALT-10, ALT-19 (located in Submittal 2 dated 10/31/06) provides a comparative matrix of the various development constraints associated with each of the identified potential alternative substation sites. Additionally, the general arrangement of the 500/230 kV substation has been overlaid on the aerial imagery and topographical contours to assess approximate limits of grading. The supplemental graphics depict the limits of grading for each of the potential alternative substation sites identified, excluding the Loveland and Barrett Smith (CalTrans Yard) alternative sites due to their overall infeasibility as a result of high development constraints.

ALT-20: The PEA and CPCN do not present a specific goal for the transfer capacity of the Sunrise Powerlink, but a CAISO document states this to be “up to 1,000 MW”. If the project west of San Felipe were to be a double-circuit, bundled 230 kV line, what would be the transfer capacity of the line between Imperial Valley and Sycamore Canyon Substations?

Response:

Summary

If the project west of San Felipe were to be a double-circuit, bundled 230 kV line, the import capability would remain the same with a 1000 MW increase in the G-1/N-1 import limit (which is the point that the CAISO was making) and a 1350 MW increase in the all-lines-in-service import limit. However, the transfer capability and transfer potential of the Sunrise Powerlink by itself, would decrease. Because of the decreased transfer capability, and other environmental, engineering and operating considerations, SDG&E has serious concerns about moving the 500/230 kV transition to the east side of the Anza-Borrego Desert State Park (ABDSP) and running 230 kV underground through the ABDSP.

CAISO Statements

One of the references to the 1000 MW import capability in the July 28, 2006 *CAISO South Regional Transmission Plan for 2006 (CSRTP-2006)*, *Findings and Recommendation on the Sun Path Project*, states that

“the proposed Sun Path Project improves the SDG&E import capability by about 1000 MW over today’s existing capability. This improved import capability by the Sun Path Project helps address expected shortfalls in the import capability and is necessary to maintain reliable load serving capability in the San Diego area.”¹

¹ The CAISO’s document is included for information as Appendix I-1 of SDG&E’s August 4, 2006 *Sunrise Powerlink Transmission Project Purpose and Need, Volume 2 – Part 1*. See page 43 of Appendix I-1.

Subsection 1 of Section 4.1.1 in the CAISO's July 28, 2006 report indicates that – absent the addition of the Sunrise Powerlink – the existing limit (2500 MW) on the ability to import power into the San Diego for the G-1/N-1 contingency of the Imperial Valley – Miguel 500 kV line², will be insufficient by “approximately 362 MW” in year 2010. Subsection 2 of Section 4.1.1 indicates that with the addition of the Sunrise Powerlink, the ability to import power into the San Diego area under N-1 conditions is increased to 3500 MW. Thus the CAISO concludes that the increase in N-1 import capability is 1000 MW (3500 MW – 2500 MW).

This is the same 1000 MW increase discussed in SDG&E's August 4, 2006 *Sunrise Powerlink Transmission Project Purpose and Need, Volume 2 – Part 1*. Section II.C states that the San Diego area import capability:

“with a post-WECC Category B contingency, such as the Southwest Powerlink, with the system readjusted to within continuous (normal) limits and path ratings³ will increase from 2500 MW to 3500 MW.”

Thus SDG&E's August 4, 2006 application for a Certificate of Public Convenience and Necessity (CPCN) concludes that the increase in G-1/N-1 import capability is 1000 MW (3500 MW – 2500 MW).

San Diego Area Import Capability vs Transfer Capability of the Sunrise Powerlink Itself

The distinction between San Diego area import capability, and the transfer capability of the Sunrise Powerlink facilities themselves, is important because the economic benefits of the new line are principally a function of the increase in import capability; not the maximum power flow capability of the new line itself. Accordingly, the increases in San Diego area import capability for the specified grid conditions as determined by the CAISO in their July 28, 2006 report and by SDG&E in its August 4, 2006 filing, should not be confused with the “transfer capacity of the line between Imperial Valley and Sycamore Canyon substations”. The former measures represent the *combined* capability of all transmission lines connecting the San Diego area to the rest of the WECC grid to deliver power into the San Diego area. These lines are the five South of SONGS lines, the 230 kV line connecting the San Diego area to Tijuana substation in Mexico, the Imperial Valley – Miguel 500 kV line, and – when added – the Sunrise Powerlink. The latter measures the maximum capability of the Sunrise Powerlink, by itself, to carry power.

Because the transmission network is operated as an integrated network, power flows into the San Diego area on all interconnecting transmission lines in accordance with the physical characteristics of the grid (e.g., the relative impedance of each interconnecting line). It would be unusual for power flows on the Sunrise Powerlink to reach the line's maximum capability. From the standpoint of determining consumer benefits, it is the Sunrise Powerlink's ability to increase the *combined* import capability of all lines interconnecting with the San Diego area that is important.

Based on the foregoing, the transfer capability of a double-circuit, bundled 230 kV line west of San Felipe would need to be evaluated – from the standpoint of consumer benefits – in the context of how it affects the combined import capability of all lines interconnecting with the San Diego area.

² “N-1 contingency” conditions are defined for planning purposes to be the most critical transmission element out of service *anticipating* the next most severe contingency. The ability to import power into the San Diego area for this condition is sometimes referred to as the San Diego area Non-Simultaneous Import Limit (NSIL).

³ This is the N-1 contingency condition described above in the second footnote of SDG&E's response to question ALT-20.

With this understanding SDG&E responds as follows: The transfer capacity of a double-circuit, bundled 230 kV line west of San Felipe would be 1800 MVA (on a 230 kV base for overhead – underground will be less, see response to ALT-23). By way of comparison, the transfer capability of the proposed 500 kV line between Imperial Valley and the proposed Central substation is between 2364 and 2727 MVA depending upon operating conditions (based on a 525 kV operating voltage).

Expandability

Beyond the specifics about import capability into the San Diego area, SDG&E has serious concerns about this alternative, chief of which is expandability. The high level design goal for the Sunrise Powerlink project is to bring a single 500 kV line as close to the SDG&E load center as is reasonably practicable, then to use 230 kV lines to distribute the power to major 230 kV load-serving substations within the San Diego load center.

Based on SDG&E's current construction standards, it takes four 230 kV lines to match the capacity of one 500 kV line. Therefore, under an ultimate design for an all-lines-in-service condition there could be at least four 230 kV circuits coming out of Central substation. However, in order to maintain transfer capability on the 230 kV circuits equivalent to the transfer capability of the 500 kV portion of the project for an N-1 or a credible N-2 outage of the 230 kV circuits, there should be really be five or six 230 kV circuits coming out of Central substation. The design and layout of Central substation is such that it can accommodate up to six 230 kV lines.

If the San Felipe substation becomes the transition point between 500 kV and 230 kV with 230 kV underground lines brought through the ABDSP then ultimately as many as four additional 230 kV circuits would be required through the ABDSP, for a total of six 230 kV circuits. Environmentally and economically, it is better to have one 500 kV transmission line through the ABDSP than to have six 230 kV transmission lines through the park. Although this ultimate build out may not be needed for decades, at least one or two additional 230 kV circuits are possible within the first decade following completion of the Sunrise Powerlink in 2010. This is similar to additional 230 kV circuits which have been brought out of the Miguel substation following construction of the existing Southwest Powerlink and additional 230 kV circuits which are planned by SCE for west of Devers, following completion of Palo Verde – Devers 500 kV #2.

If additional 230 kV circuits could not be put through the state park, then one of the objectives of the Sunrise Powerlink, "expandability", would not be met with the CPUC Energy Division's alternative. It hardly makes sense from a CAISO ratepayers' perspective to significantly increase the cost of the Sunrise Powerlink--which an additional 23 miles of underground double circuit 230 kV transmission (through the ABDSP) would surely do--while foreclosing (probably forever) future expansion of the 230 kV portion of the project.

Other Considerations

Other considerations include increased environmental impacts from installing two, let alone six underground 230 kV circuits as opposed to one 500 kV circuit. These increased environmental impacts would come through digging up the road for the initial two circuits, diverting traffic for installation, as well as the subsequent impact from additional underground circuits in the future. There would also be significant transportation impacts during construction, and to address possible outages on the underground segments of the line, which could potentially take the entire road out of service at times.

The cost to construct and maintain underground 230 kV circuits is higher than the cost to construct and maintain an overhead 500 kV line. Compared to a single 500 kV line, 230 kV circuits provide reduced ampacity (and therefore reduced transfer capability) through the desert due to ambient heating (there would be no wind-induced cooling effects). To compensate for this reduced ampacity, cable size could be made larger through the desert, further increasing costs. Compared to a single 500 kV line there would also be increased losses with underground 230 kV circuits. This would further increase costs incurred by ratepayers and further reduce net transfer capability. Finally there would be increased outage times, which is typical for underground as compared to overhead lines. Although, SDG&E has proposed some portion of the 230 kV transmission lines out of Central be put underground, putting additional 230 kV lines underground through the ABDSP increases exposure to these increased outage times.

Shared Costs

The proposed San Felipe substation is part of the “Green Path Project – Southwest” (sponsored by IID and Citizens Energy)⁴. Moving the 500/230 kV transformation from SDG&E’s proposed Central substation to IID’s proposed San Felipe substation, would likely not provide significant cost savings because the Memorandum Of Agreement (MOA) between IID, Citizens Energy and SDG&E anticipates that (1) IID will transfer to Citizens Energy 95% of the capacity of the new lines between Imperial Valley substation and the Narrows Area, and (2) Citizens Energy will (a) turn over its 95% share to CAISO operational control, and (b) seek cost recovery for its entitlement from CAISO transmission customers. Because the 500/230 kV transformation facilities at the proposed San Felipe substation would – under the CPUC Energy Division’s alternative — become part of the Imperial Valley – Narrows area transmission facilities, CAISO consumers would presumably still be obligated to pay at least 95% of the 500/230 kV transformation costs.

ALT-21: PEA Figure 2.3-2M illustrates the duct bank required for the underground segment proposed south of Ramona. Is there any reason that an underground segment through the ABDSP would use a different construction method?

Response: The individual duct banks will typically have the same configuration but the separation between duct banks will generally be less than 20 ft. due to limited space, concerns with extensive blasting, road closures, and other construction related issues. Also, the closer spacing results in a lower underground cable rating, however, additional engineering analysis may identify methods to increase the cable rating. Alternative configurations (i.e. jack and bore, horizontal directional drill, or horizontal duct banks) may be feasible, however, additional geotechnical studies, surveying and other engineering studies are required to determine the feasibility of these methods. This configuration is limited to two (2) 230kV circuits. As indicated in the response to Alt-20, it is anticipated that four (4) additional future 230kV circuits would be needed between San Diego and San Felipe if the 500/230kV substation is located at San Felipe instead of Central. To reduce future construction impacts, installation of these additional duct banks during the initial construction would be proposed. Additional information on an underground alternative through ABDSP is provided in the response to ALT-23.

ALT-23: Please provide preliminary engineering, including vault spacing, for installation of a double-circuit bundled 230 kV line that would be installed underground in Highway 78 (including the segment of Highway 78 in which SDG&E is proposing to

⁴ LADWP is not involved in the “Green Path Project – Southwest” so would have no cost responsibility for facilities at the proposed San Felipe substation. The alternative proposed by the CPUC Energy Division appears to have inadvertently confused LADWP’s role with that of Citizens Energy.

**SUNRISE POWERLINK PROJECT
(A.06-08-010)**

**SDG&E'S 12/13/06 RESPONSE TO
CPUC ENERGY DIVISION'S DATA REQUEST NO. 4**

ALT-63: [Follow-up to ALT-20 regarding the 230 kV underground alternative west of San Felipe Substation and transfer capability of the proposed project.] SDG&E's response to ALT-20 contained the following as portions of a lengthy discussion of "Expandability":

"Beyond the specifics about import capability into the San Diego area, SDG&E has serious concerns about this alternative, chief of which is expandability. The high level design goal for the Sunrise Powerlink project is to bring a single 500 kV line as close to the SDG&E load center as is reasonably practicable, then to use 230 kV lines to distribute the power to major 230 kV load-serving substations within the San Diego load center.

Based on SDG&E's current construction standards, it takes four 230 kV lines to match the capacity of one 500 kV line. Therefore, under an ultimate design for an all-lines-in-service condition there could be at least four 230 kV circuits coming out of Central substation. However, in order to maintain transfer capability on the 230 kV circuits equivalent to the transfer capability of the 500 kV portion of the project for an N-1 or a credible N-2 outage of the 230 kV circuits, there should be really be five or six 230 kV circuits coming out of Central substation. The design and layout of Central substation is such that it can accommodate up to six 230 kV lines. ... Although this ultimate build out may not be needed for decades, *at least one or two additional 230 kV circuits are possible within the first decade* [emphasis added] following completion of the Sunrise Powerlink in 2010."

The future expansion will need to be described in the EIR/EIS. In order for us to adequately describe this, please provide the following information:

- a. Please provide maps showing the most likely routes that illustrate the future "five to six 230 kV circuits coming out of Central substation." Information should include the numbers of circuits within each identified corridor, and substation mid-points and endpoints.
- b. Provide the timeframes in which each of these additional circuits would most likely be constructed.
- c. Describe the factors affecting the location and timeframe for each of the additional circuits.

**SUNRISE POWERLINK PROJECT
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SDG&E'S 12/13/06 RESPONSE TO
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RESPONSE:

At this time, the exact locations and timing of future 230 kV circuits out of Central East Substation—in addition to the two planned 230 kV lines between Central East Substation and Sycamore Canyon substation—are not known. SDG&E has always anticipated that there would eventually be additional circuits emanating from Central East Substation; connecting to various locations within the San Diego load center. Possible connection points for these additional circuits could include Sycamore Canyon, Penasquitos (with or without tying into Sycamore Canyon), Escondido, Mission and Los Coches (assuming a 230 kV bus is added to this substation). However, none of these alternatives have been studied. There are other 230 kV substation which could serve as termination points, but the ones listed here are closest and, preliminarily, appear to make the most sense.

- a. Maps showing the most likely routes that illustrate the future “five to six 230 kV circuits coming out of Central East substation” are premature. See the discussion above.

From a planning perspective, it often makes sense to site additional lines in an already-disturbed corridor. Therefore for any additional circuits, SDG&E would likely make use of existing ROW to the extent possible. These additional circuits could follow some of the proposed Sunrise Powerlink Transmission right-of-way, most likely the 230 kV right-of-way, as described in the PEA.

- b. The timeframes in which each of these additional circuits would be constructed is not known at this time. At present, no need is seen in the ten year planning horizon, 2007-2016. However; as time goes on and additional information concerning load growth, transmission expansion, generation retirements, generation additions, Automated Metering Infrastructure (AMI) impacts, rooftop solar photovoltaic applications, energy efficiency programs, demand response initiatives, and other related matters becomes available; the timing of the need for additional 230 kV circuits out of Central East Substation will begin to come into focus.
- c. The factors affecting the location and timeframe for each of the additional circuits out of Central East Substation include reliability requirements dictated by NERC/WECC reliability criteria, ISO planning criteria, the need to maintain or expand import capability, operational issues, and economic considerations. The most likely triggers for additional 230 kV circuits out of Central East Substation are reliability needs above the 4200 MW all-lines in-service import capability or the

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3500 MW G-1/N-1 import capability; operational constraints or mitigation required by NERC/WECC reliability criteria for the outage of one or both of the two Central East – Sycamore Canyon 230 kV circuits (which are planned to be constructed on common structures for the overhead portions of the two circuits).

These factors will be analyzed every year as part of the annual Grid Assessment and Transmission Expansion Plan (“Grid Assessment”) process. As part of its annual Grid Assessment, SDG&E evaluates its transmission system and makes recommendations to the CAISO as to its modification and expansion. This Grid Assessment looks in depth at each year of the upcoming five year period as well as the tenth year from the current year. Detailed looks beyond ten years are more difficult as there is far less certainty about assumptions during this period (e.g., transmission expansion and topology, generation additions and retirements, load levels, etc.).

Attachment O
**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 7/8/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15**

Data Request ALT-85

- a. Please provide maps showing the most likely routes that illustrate the future 500 kV line that would connect with either SCE or IID. Information should include substation mid-points and endpoints.
- b. Describe the estimated timeframe for construction of a 500 kV transmission line between the proposed Central East Substation and the SCE and/or IID systems (e.g., Serrano/Valley Substations).
- c. Describe the factors affecting the location and timeframe for the additional 500 kV circuits.

Response

- a. SDG&E must accommodate future system growth and expansion as matter of prudent system planning for the long-term thus allowing maximum flexibility to meet demands and changing circumstances as they arise. This does not mean that there are any current plans to expand the 500 kV system beyond what is contemplated by Sunrise. Because it is impossible to determine what route constraints or route opportunities might exist in the future, SDG&E cannot provide maps showing the most likely routes illustrating any future 500 kV line. At this time, SDG&E could speculate on possible end points of such a line from the proposed Central East substation as follows:
 - If the CPUC selects the Proposed Route, then there could be a 500 kV line from Central East substation (proposed substation site) or from Central South Substation (alternative substation site in Santa Ysabel) to SCE's existing Valley-Serrano 500 kV transmission line (a new substation could be proposed). On a related point, the Proposed Route has more opportunities for future 230 kV transmission lines to interconnect with SDG&E's system due to location, fewer land constraints for routing getaways and accommodating future transfer capacity increases of the Proposed Project.
 - If the CPUC selects a Southern Route, then there could be a 500 kV line from Modified Route D substation site south of I-8 or from the I-8 Alternative substation site north of I-8 to Imperial Substation. A southern route has limited ability to provide for additional 230 kV lines since the underground portion through Alpine is limited to a very narrow road and it will be difficult to add future 230 kV lines. This will limit the ability to provide for future upgrades of the 500 kV line and utilize full potential capacity of the Sunrise Powerlink project.
- b. Because SDG&E does not have current plans to construct a 500 kV transmission line between the proposed Central East Substation and the SCE and/or IID systems at this time, it is impossible to specify the timeframe for construction. But it should be noted that the Proposed Project does not rule this possibility out whereas the southern route could make expansion more difficult. In any event, the estimated timeframe for such a line would depend on the requisite permitting and construction in accordance with General Order 131-D and other applicable laws.
- c. Factors affecting the location and timeframe for the additional 500 kV (or 230 kV) circuits would include, among other things, how SDG&E's system continues to grow, where would be the right place (from a technical perspective) to upgrade the system, system performance, potential siting opportunities and constraints, permitting implications, the retirement of power plants, utilization of existing rights of way and siting of future generating resources. But, SDG&E cannot speculate at this time if and when such circuits would be needed.

**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

Sunrise Powerlink Transmission Line Project Data Request No. 15 - Modified

Alternatives

Background. In the original Data Request No. 15 (June 27, 2007), we asked for information on SDG&E's plans for future transmission system expandability with regard to the 500 kV transmission system. SDG&E's response (July 8, 2007) stated that SDG&E could not speculate on the timing and specific routing of a 500 kV future expansion, but that there could be a connection to SCE's Valley-Serrano 500 kV system.

- ALT-85 [Follow-up to DR 15] **500 kV Expandability.** The Assigned Commissioner's Ruling of July 24, 2007 shows that SDG&E considers the opportunity for expansion at the 500 kV level to be an important factor to be taken consideration in the Commission's decision on the Proposed Project and alternatives. We must further examine this issue in order to define analysis requirements for both the Proposed Project and the alternatives. In order for environmental staff to fully analyze the potential impacts of expansion at the 500 kV level, please answer the following questions regarding a future 500 kV transmission line that would connect with SCE's transmission system.
- a. Please define the anticipated purpose and need (or objectives) for expansion at the 500 kV level so we can develop route options that meet those objectives.
 - b. Given that a 500 kV expansion of the Proposed Project must be defined and analyzed in this EIR/EIS, please confirm whether the route defined in Data Response 1 (ALT-35) as the "Full Loop Alternative" would be the most likely 500 kV expansion route from the Central East Substation. If a different route from that described in ALT-35 would be more appropriate for consideration at this time, please define that route and provide maps and GIS data.
 - c. If the most likely 500 kV route would differ from the LEAPS Project 500 kV route, please explain why the LEAPS 500 kV route is not followed. The 500 kV Full Loop Alternative route (described in SDG&E's response to data request ALT-35) would pass through developed multi-use areas along the southwest lakeshore of Lake Elsinore, and as SDG&E notes in the July 8, 2007 response, additional constraints along the ALT-35 route may need to be avoided.

**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

SDG&E Response ALT-85:

a. Even though SDG&E has no specific plans for expandability at this time, it was discussed in the SDG&E Sunrise application and prior data request responses.¹ Expandability was not specific to either 500 kV or 230 kV transmission lines. However, in response to this data request, SDG&E will limit the response to 500 kV expandability from the proposed Central East Substation. The 500 kV expandability discussion is best described in terms of the "Full Loop" alternative.

The "Full Loop Alternative", which would entail a transmission connection between the proposed Central East Substation and SCE's system at Serrano/Valley, has been reviewed in the open stakeholder process, including the CAISO Southwest Transmission Expansion Plan (STEP) group. The following links provide several such presentations.

- October 28, 2005: <http://www.caiso.com/14ba/14bad900305f0.pdf>
- August 9, 2005: <http://www.caiso.com/docs/2005/08/11/2005081111135011214.pdf>
- June 29, 2005: <http://www.caiso.com/docs/2005/07/06/200507061323461646.pdf>
- April 27, 2005: <http://www.caiso.com/docs/2005/05/06/2005050607570520232.pdf>
- February 9, 2005: <http://www.caiso.com/docs/2005/02/10/2005021015393819902.pdf>
- December 8, 2004: <http://www.caiso.com/docs/2004/12/13/200412131010411299.pdf>
- October 1, 2004: <http://www.caiso.com/docs/2004/10/01/200410010807416978.pdf>

From at least October 1, 2004 (when SDG&E explicitly solicited stakeholder input), SDG&E has openly presented the concept of ultimately "Completing the 500 kV System" (please refer to slide 16 of the October 1, 2004 presentation for a conceptual diagram of what is now referred to as the "Full Loop Alternative").

In addition, SDG&E's prepared testimony in this docket specifically discussed potential future expansion in the context of its finding that the "Full Loop" could not presently be justified on need or economic grounds. **Amended Application (August 4, 2006), Vol. 2 (Purpose and Need), pp. VI-14-15** (Attachment A), and **Appendix I-1 - CAISO CS RTP report (July 2006) p. 68** (Attachment B). This testimony also discussed that a "second SWPL" alternative lacks expandability (**id., p. VI-5**) (Attachment C). **SDG&E's December 14, 2005 Application** included testimony that discussed expandability of Sunrise in several contexts: the "Full Loop" interconnection with SCE (**Vol. 2, at pp. II-3, VI-8-9, Appendix II, Figure II-1, Appendix VI-iv**) (Attachment D), as one of the economic scenarios (**V-28**) (Attachment E), and the expandability of the Central substation at 500 and 230 kV (**id., p. II-4**) (Attachment F).

In the August 2006 Sunrise PEA filing, SDG&E first mentioned expandability in **Chapter 2, section 2.2.4, page 2-21** (Attachment G) under the section Project Objectives. Objective 2 reads: "Provide transmission facilities with a voltage level and transfer capability that (a) allows for prudent system expandability to meet both anticipated short-term (2010) and long-term (2015 and beyond) load growth through a total San Diego area import capability of at least 4,200 MW (all lines in service) and 3500 MW (under G-1/N-1 contingency conditions) and (b) supports regional expansion of the electric grid."

¹ 11/17/06 response of Data Request #1, ALT-14 (b), ALT-20, aLT-33, 34, 35, 12/13/06 response of Data Request #4, ALT-63, and 7/8/07 response to Data Request 15, ALT-85.

**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

Also, SDG&E used the project objectives – including expandability – in Chapter 3 of the PEA to identify and compare feasible alternatives to Sunrise. For example, after comparing in-area generation to Sunrise in Chapter 3 of the PEA, page 3-1 and page 3-2 (Attachment H), in-area generation did not meet Objective 2 because this alternative does not satisfy regional expansion goals and could be compromised by limits on economically feasible air emission offsets. This objective also played a role in substation siting alternative as discussed in Chapter 3, page 3-5, section 3.2.2 (Attachment I), stating, “The location of the substation is a key element, and somewhat precursory, to the route development and selection process. Access for construction and maintenance and the ability to site future circuits for network expansion and reinforcement are important factors in determining the specific requirements of the configuration of not only the substation, but also the overall Alternative.”

The CPUC referenced the eight project objectives listed in Chapter 2 and Chapter 3 of the PEA in its September 15, 2006 Notice of Preparation/Notice of Public Scoping Meetings (Attachment J) and stated, “The objectives presented by SDG&E will guide the development of alternatives to the SRPL, but because CEQA does not require that alternatives meet all objectives, these objectives do not unreasonably constrain the alternatives development process.”

In a CPUC ordered workshop held on October 13, 2006 (Attachment K), SDG&E presented the eight objectives and discussed the need to consider expandability as well as the rest of the objectives as part of the environmental review process. However, in the January 22, 2007 CPUC Second Scoping Notice, the CPUC narrowed the eight more qualitative objectives to three high level objectives, essentially the purpose and need. SDG&E held a conference call with the CPUC (with CPUC legal counsel in attendance) and discussed the implications of limiting the objectives. SDG&E followed up with a comment letter to the CPUC dated February 24, 2007 (Attachment L) explaining the need to maintain the objectives by stating, “This is because the eight objectives provide the numerical and qualitative means to determine the degree to which project alternative could attain these objectives.” Thus, by narrowing the number of objectives to the three high level purpose and need goals, project objectives such as expandability lose the necessary focus required for the CEQA/NEPA analysis.

As explained in the 11/17/06 response to Data Request #1, ALT-14(b) ALT-20, ALT-33, ALT-34, and ALT-35 (Attachment M), 12/13/06 response to Data Request #4, , ALT-63 (Attachment N) and most recently in the 7/8/07 response to Data Request #15, ALT-85 (Attachment O), SDG&E does not have any specific plans for future 500 kV or 230 kV circuits out of the proposed Central East Substation. In the current 10-year planning horizon, SDG&E does not expect the need to expand 230 kV or 500 kV circuits from that substation. Thus, it currently cannot provide routing, timing nor need information for any potential future circuits.

As noted in testimony at the recent Sunrise need evidentiary hearings, the ISO has recognized that Sunrise will provide options for future expansion of import capabilities.² Further, SDG&E there confirmed that no plans currently exist for future expansion, how future expansion might actually play out cannot be foreseen at this time, and that the benefits of having the option for future expansion cannot be quantified at this time³.

² Transcript of July 9, 2007 at page 105, line 17 through page 106, line 12.

³ Transcript of July 10, 2007 at page 309, line 25 through page 311, line 17.

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Finally, SDG&E testified that given the choice between maintaining the ability to have the option to expand the facilities in the future and getting an earlier decision from the Commission, SDG&E has no other choice but to forgo the option and take the earlier decision.⁴

Prudent planning requires consideration of future expansion when siting a substation or transmission line. Siting a substation with capability of future circuits in an area where there is little or no possibility for future circuit ingress or egress disregards expandability. For example, the substation alternative associated with the CPUC I-8 Alternative route is surrounded by Cleveland National Forest. Routes for future circuits whether it be 500 kV or 230 kV circuits will be more constrained than future circuit routes out of the proposed Central East Substation site.

To summarize, expandability, while it is something that both the ISO and SDG&E have identified as having some value and is generally part of prudent transmission planning, should not be used to expand the current scope of the Sunrise Project.

- b. In response to Data Request #1 ALT-33 and ALT-35, dated December 13, 2006, SDG&E speculated on a future 500 kV route for the potential Full Loop option. The conceptual route proffered in response to said Data Requests was meant to be indicative of what might be considered at a later date. SDG&E has not undertaken an analysis to identify potential routing alternatives since no need for such an expansion exists at this time. And, as stated in its July 8 2007 response to Data Request #15, ALT-85, it is not possible to reasonably determine a future route when the future purpose and future need of any future circuit and the potential timing are not known at this time. Even if SDG&E speculated on a particular route today, it will likely change due to changed conditions, increased constraints, and other siting considerations.
- c. SDG&E has not undertaken an analysis of the LEAPS route or potential alternatives. It is difficult to determine the most likely route for future circuits for which the need, timing, and routing constraints is unknown. There is simply no detail to evaluate at this time. But, if one speculated on a future route, then it is possible that it would follow the LEAPS Project 500 kV route (TE-VS) if and when a determination is made that there is a need. SDG&E did not provide a route that follows the LEAPS Project in its ALT-33 and ALT-35 response due to the uncertain nature of the LEAPS Project. Even if a LEAPS Project route was determined to be the best assumption a route from the proposed Central East Substation to the LEAPS interconnection point would need to be developed.

⁴ Transcript of July 10, 2007 at page 311 line 17 through page 312 line 2.

EXHIBIT Q



CHAPTER VI

ALTERNATIVES



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: Linda P. Brown

Jonathan T. Woldermarian

Full Loop Options

- Imperial Valley – Central – Serrano/Valley (PAR)
- Imperial Valley – North – Serrano/Valley (PAR)
- Imperial Valley – North – Serrano/Valley (without PAR)

North Gila Full Loop Options

- North Gila – Central – Serrano/Valley (PAR)
- North Gila – North – Serrano/Valley (PAR)
- North Gila – Imperial Valley – Central – Serrano/Valley (PAR)
- North Gila – Imperial Valley – North – Serrano/Valley (PAR)

The TCS was a screening study that compared these eighteen transmission alternatives on a common basis in order to select the best one. With the help of the Technical Working Group, these eighteen alternatives were narrowed to the four alternatives listed below:

1. Imperial Valley – Central – Serrano/Valley 500 kV Project (the Full Loop)
2. Imperial Valley – Central 500 kV Project (the Sunrise Powerlink)
3. Imperial Valley – Miguel 500 kV Project
4. Serrano/Valley – North 500 kV Project

The four transmission alternatives were subjected to a comprehensive matrix analysis, focusing on three main areas: (1) grid reliability and technical performance; (2) access to renewable energy; and (3) economic benefits. This assessment determined the two highest ranking alternatives to be the Imperial Valley – Central – Serrano/Valley

500 kV alternative (or the “Full Loop”²) and the Imperial Valley – Central 500 kV alternative (the “Sunrise Powerlink”). These two alternatives were found to be the best performing thermally and economically, and provide the best access to renewable energy resources.

SDG&E then developed a full “plan of service” for these preferred alternatives. This included an analysis of their performance under peak and off-peak conditions and assuming different generation dispatch scenarios, as well as more exhaustive thermal, transient stability, post-transient, and economic analysis. The Sunrise Powerlink emerged as the preferred project as a result of this more refined analysis.³ The final four alternatives are discussed in more detail below.

1. Imperial Valley – Miguel 500 kV # 2

- The IV-Miguel 500 kV #2 alternative included construction of a 500 kV transmission line connected between the existing 500 kV Imperial Valley substation and the existing Miguel 500 kV substation, forming a second Imperial Valley – Miguel 500 kV transmission line.

² The Full Loop would complete the 500 kV loop through Southern California, connecting SCE’s 500 kV Palo Verde-Devers-Valley-Serrano system to SWPL.

³ The CAISO independently reviewed SDG&E’s evaluation of the alternatives and concluded the alternatives either did not provide the comparable increase in import capability or anticipated long-term benefits or were more expensive or did not provide access to proposed new renewable generation in the Salton Sea or Imperial Valley (CAISO July 28, 2006 report – page 49). On August 3, 2006, the CAISO Board of Governors approved the CAISO’s report recommending that Sunrise be constructed for summer 2010 operation

The IV-Miguel 500 kV #2 alternative is essentially a second SWPL, because the existing 500 kV line from Imperial Valley to Miguel is the last section of SWPL, which runs from Hassayampa to North Gila to Imperial Valley to Miguel Substations.

Overall this alternative provided less direct access to renewables and increased flow into Miguel, which is already heavily loaded. This alternative also gives rise to reliability concerns. Even with the assumed separation from the existing line, the IV-Miguel 500 kV #2 gives rise to a potential common corridor outage.⁴ Additionally, this line does not provide for future system expandability.

With line termination at the Miguel substation it would be necessary to mitigate limitations within the Miguel substation as well as on the lower voltage lines out of Miguel Substation. SDG&E has already been working to increase the capability of the transmission system north of Miguel and thus relieve that congestion point. Towards that end, SDG&E has completed Miguel – Mission 230 kV #2 and the Miguel – Sycamore Canyon 230 kV #2. SDG&E is still working on the completion of the Otay Metro Powerloop (formerly know as Otay Mesa Power Purchase Agreement transmission lines). These projects will and have increased the capability to accommodate power flows north of Miguel and have relieved some congestion. However, in doing so the existing transmission corridor north of Miguel has, in all practicality, reached the maximum density of transmission lines along several of its sections, with up to 9 transmission lines on various sections and up to 5 distribution circuits along various sections. The addition of more lines would cause serious space limitations in addition to

⁴ The CAISO concurred with SDG&E and stated due to its poor reliability performance, particularly under an N-2 condition for the double Imperial Valley – Miguel 500 kV line outage, this transmission alternative does not provide reliability benefits to the region (CAISO July 28, 2006 report at 47).

novel proposition that may lie outside of the FERC's authority in any event.⁸ It is such unsettled matters that led the CAISO report (July 28, 2006, at 2) on "Sun Path" to delay any recommendation on the LEAPS project.

The CAISO report also stated that, although the CAISO has not completed its assessment of the LEAPS proposal, "this temporary delay ... did not hamper our integrated analysis of the Sunrise Powerlink/Green Path Project" (*id.*). This report concludes that the economic benefits of Sunrise will exceed its costs in the presence or absence of LEAPS.

Given all the regulatory uncertainties of the LEAPS project, and that the benefits of the Sunrise Powerlink would still be enjoyed with or without LEAPS, it is prudent to build the Sunrise Powerlink with or without the LEAPS alternative.

e. Full loop alternatives

There were seven "Full Loop" alternatives studied during the TCS. Three of these alternatives began at Imperial Valley, tying into either a new Central Substation (and from there into Sycamore Canyon Substation) or a new Northern Substation (and from there into Escondido and Talega Substations) before connecting to SCE's southern 500 kV system.

Four of these alternatives began at North Gila (with two also looping into Imperial Valley) and then connected into either a new Central or a new Northern Substation and then on into SCE's southern 500 kV system. Going to North Gila

⁸ See, letter from, Elsinore Valley Municipal Water District to the FERC, July 10, 2006, in Project No. P-11858-002. By notice posted July 27, 2006 in the LEAPS FERC hydro docket, FERC staff indicated a target date of December 2006 for having the application submitted to the FERC for decision.

provided no technical advantage at this time and would greatly increase the cost and scope of the project. Therefore, the North Gila Full Loop options were not considered further.

The North Gila Full Loop Alternatives included construction of a 500 kV transmission line between the existing 500 kV Imperial Valley substation and SCE's southern 500 kV system, through a new substation in San Diego. This Full Loop Alternative connects SWPL with the southern portion of SCE's 500 kV system. The Full Loop Alternatives would complete the 500 kV loop from Palo Verde to SDG&E to SCE and then back to Palo Verde by adding the portion from SDG&E's 500 kV system to SCE's 500 kV system.

Of the Full Loop alternatives originating at Imperial Valley, the best-performing Full Loop alternative went from Imperial Valley to a new "Central" Substation to a new substation in SCE's territory between the Serrano and Valley Substations. This alternative also had the advantage of combining the Sunrise Powerlink (Imperial Valley – Central 500 kV) with the LEAPS transmission. It is this Full Loop alternative, which will be discussed below and will be referred to below as just "the Full Loop Alternative."

Specifically, the Full Loop Alternative studied entailed construction of:

- New 500/230 kV Central Substation with a 500/230/12 kV transformer
- New Serrano/Valley 500 kV Switching Substation
- Imperial Valley – Central 500 kV line (series compensated)
- Central – Serrano/Valley 500 kV line
- Two Central – Sycamore Canyon 230 kV lines
- Sycamore Canyon – Penasquitos 230 kV line.

This alternative also included a phase angle regulator to regulate flow into San Diego from this new line. Subsequent studies during the Plan of Service Study (“POS”), which focused on the Sunrise Powerlink and the Full Loop Alternative, found there was no need in the Full Loop Alternative for a phase shifting transformer or other such device.

The Full Loop Alternative made the final short list of four alternatives and was the best performing alternative overall. It had very good technical performance. Except for upgrades to the proposed Central Substation, there were no N-1 overloads that were required for this alternative as determined by the TCS. Subsequent studies during the POS found the Sunrise Powerlink was sufficient for the Full Loop. The only exception might be the need for additional 230 kV lines from Central to Sycamore Canyon.

In addition to providing additional flow into SDG&E’s system (and thus increasing imports into SDG&E’s system), the Full Loop Alternative also provided flow into SCE’s system at or near a load center, which tended to relieve flow on other portions of SCE’s system.

In the Transmission Comparison Study, the Full Loop Alternative had the fewest overloaded elements under the full list of contingencies and even had the added benefit of relieving N-0 and N-1 flows and overloads throughout the region (including other utilities).

With regard to renewables, the Full Loop Alternative provides access to the Imperial Valley renewables (geothermal, solar or wind) resources through the Imperial Valley Substation.

8. Other Non-Quantified Benefits

In the course of CS RTP-2006 studies, we quantified the project benefits based on the quantifiable energy benefits and LCR cost reductions. We also accounted for the reliability benefits of this project as well as its favorable impact in allowing California utilities access renewable resources in the Salton Sea area without curbing their economy imports.

However, there are many other operational and strategic benefits for the proposed Sun Path Project that are generally difficult to quantify. In the followings, we discuss the sources of these benefits qualitatively.

Infrastructural improvement benefits: 48% of the high voltage transmission facilities (138 KV above) in SDG&E are over 30 years old. If the aging transmission infrastructure in California is not upgraded, this will have a negative impact on the future economy in the region when frequent outages or disturbances might occur due to equipment degradation. Therefore, the added Sun Path Project will not only provide a solution for the short-term reliability problem, but also a long-term improvement to the existing transmission infrastructure. This provides several Infrastructural improvement benefits:

- Provide a long-term and robust delivery system to California and SDG&E;
- Provide more options for the future expansion and realize the long-term vision of California's Transmission infrastructure;
- Account for the uncertainty of contract terminations for many Qualifying Facilities;
- Provide insurance against unexpected high load growth in SDG&E;
- Enable more options for future strategic interconnections and expand import capability in the long run; and
- Enable (in fact facilitate and force) the replacement for aging power plants in San Diego area.

Other benefits of the proposed project include the reduction of additional infrastructure that would be required without Sun Path such as gas pipelines, pumping stations, and water and waste treatment systems that would be required if in-area generations are to be developed.

Effects on generation investments: San Diego currently has all of their local generators under RMR contracts since their import capability is limited. Since these generation companies are guaranteed to have their capital costs covered by SDG&E and are guaranteed payments, they have no incentive to upgrade their units to be more efficient. The Sun Path Project will greatly reduce and may eliminate the need for RMR contracts, thereby creating a stronger incentive for the local generation within San Diego to re-power and become more efficient, as then they will no longer be given

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

In the Matter of the Application of)
San Diego Gas & Electric Company)
(U-902) for a Certificate of Public)
Convenience and Necessity for the)
Sunrise Powerlink Transmission Project.)

Application No. 06-08-010
(Filed August 4, 2006)

**INITIAL TESTIMONY OF THE
CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION**

PART 1

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Dated: January 26, 2007

**INITIAL TESTIMONY OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR
CORPORATION, PART I
A.06-08-010**

Page 52 of 54

1 value from this study is \$250M/year. Hence, these two benefit estimates are similar, despite
2 the significant input assumption differences between the updated base case and the cases in the
3 CSRTP Report.

4
5 **Q. Please compare these results those in the SDG&E 01/26/07 Update.**

6 **A.** SDG&E estimates total energy and reliability benefits of \$289.4M for 2015 (in 2015 dollars).
7 The corresponding value from this study is \$250M/year. As shown in Joint Exhibit A, the
8 SDG&E case shows lower energy benefits, but higher reliability benefits.

9
10 **8. NON-QUANTIFIABLE BENEFITS AND CONCLUSIONS.**

11
12 **Q. Does Sunrise provide other benefits that were not quantified as part of the reliability and**
13 **economic assessments described in this testimony?**

14 **A.** Yes, it does. The TEAM methodology contemplates non-quantifiable benefits associated with
15 transmission projects.²³ . Such benefits associated with Sunrise were identified at pages 66-69
16 of the CSRTP Report, including:

- 17 • Providing much needed long-term improvement of an aging transmission infrastructure.
- 18 • Providing options for future expansion and “insurance” against unexpected high load
19 growth in San Diego.
- 20 • Enabling more options for future strategic interconnections and ultimately the expansion of
21 import capability.
- 22 • Facilitating the replacement of aging power plants in the San Diego area.

²³ *Opinion of Methodology for Economic Assessment of Transmission Projects, id, 66.*



CHAPTER II

SCOPE AND COST



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: Jan Strack

As described in SDG&E's October 4, 2005 *Report for SDG&E's Transmission Comparison Study*,² the matrix analysis weighed the performance of the four alternatives to obtain the ranking shown below.³

1. Imperial Valley-Central-Serrano/Valley 500 kV project (or "Full Loop")
2. Imperial Valley-Central 500 kV project (or "Sunrise Powerlink")
3. Imperial Valley-Miguel 500 kV project
4. Serrano/Valley-North 500 kV project

The Technical Working Group determined that the Full Loop⁴ option and the Sunrise Powerlink were the best performing transmission alternatives with respect to grid reliability and technical performance, accessing areas of high renewable resource potential, and providing economic benefits. Based on more refined project analysis, cost estimates, and a second round of economic analysis, which is described more fully in Chapter V, Economic Benefits, the Sunrise Powerlink emerged as the preferred project.

1. Imperial Valley-Central Transmission Line Facilities

In general terms the 500 kV transmission line portion of the Sunrise Powerlink will traverse the geographic area between the existing Imperial Valley substation and a new 500/230 kV substation (known as "Central") located in central San Diego County. As such, the line is likely to cross desert terrain, mountains, foothills and inland plains. The "low-end" cost estimate for the 500 kV transmission line portion of the project is based on a length of approximately 75 miles while the "high-end" cost estimate is based on a length of approximately 105 miles.

² This report was prepared by SDG&E in cooperation with the CAISO and STEP participants.

³ A discussion of the general merits of these four alternatives is provided in Chapter VI, Alternatives.

⁴ The Imperial Valley-Central-Serrano/Valley 500 kV project is sometimes referred to as the "Full Loop" project because it completes the 500 kV path through the Southern California load centers. Today, there is no 500 kV connection between the Los Angeles and San Diego areas.

The proposed 500 kV transmission line is assumed to use a combination of single circuit, self supporting tubular steel poles and lattice steel towers. The 500 kV line will be designed for thermal powerflow capability greater than 2,000 MW in anticipation of future needs. A combination of new rights-of-way and construction of access roads in conjunction with the expansion of some existing rights-of-way will also be required for the proposed transmission line. Since the route selection process has not been completed at the time of this filing, the engineering details such as conductor type and structure heights have not been finalized and thus, are not included in this filing.

2. Substation Facilities

The future Central substation will be located somewhere in central San Diego County. It is anticipated that this new substation will require approximately 80 fenced acres, reached via an access road. The proposed substation acreage will accommodate future expansion. Additional land may be required outside of the fenced area to provide for a transition area between the substation and surrounding properties, depending on the location.

Transformation capability at the Central substation will be comprised of two 500/230 kV transformer banks, each rated at 1120 MVA. Initially, one 500 kV line with series compensation, two 230 kV lines, and the required supporting protection, metering and communication facilities will be installed. The substation fenced area will have room for additional 500 kV and 230 kV transmission lines and supporting equipment; to accommodate potential growth.

The Sunrise Powerlink will also require modifications to existing substations to increase transformation capability and accommodate the termination of new lines.



CHAPTER VI

ALTERNATIVES



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: Jan Strack

C. The Full Loop Transmission Alternative

The following discusses the Full Loop transmission alternative in comparison to the Sunrise Powerlink. This alternative includes the same transmission upgrades between the Imperial Valley substation and the Central substation as contemplated for the Sunrise Powerlink, and then adds a 500 kV segment between the Central substation and a connection to SCE's 500 kV system somewhere along the Serrano-Valley 500 kV line in Riverside and Orange Counties. The Full Loop option completes a 500 kV loop through the Southern California load centers, a goal of the CAISO.

A variation of the Full Loop is to incorporate the 500 kV transmission system associated with the planned LEAPS project which, as currently envisioned, would have a southern terminus at a new 500/230 kV substation somewhere along SDG&E's Talega-Escondido 230 kV line in northern San Diego County. It would have a northern terminus at a 500 kV switchyard somewhere along SCE's Serrano-Valley 500 kV line. A logical "full loop" grid configuration would be to substitute the 500 kV transmission associated with the LEAPS project for most or all of the Central – Serrano/Valley portion of the Full Loop alternative. This configuration would eliminate the need for the LEAPS project's planned 500/230 kV substation on SDG&E's Talega-Escondido 230 kV line.

The specific routing and ownership of facilities connecting the southern end of the LEAPS 500 kV transmission system to SDG&E's 500 kV transmission facilities would need to be worked out. However, for purposes of establishing the relative economic value of the Full Loop transmission alternative to consumers within the CAISO control area, it does not matter significantly whether the LEAPS project sponsors, SDG&E or some other party builds and owns the new facilities between the new Central substation

and SCE's Serrano-Valley 500 kV line. The transmission capital costs for the Full Loop are estimated to be \$1.789 billion on the "low-end" and \$2.453 billion on the "high-end".

By strengthening the transmission ties between the Los Angeles and San Diego areas, CAISO consumers obtain increased energy benefits through lower prices in the California load centers (as compared to the Sunrise Powerlink). While the Full Loop improves energy savings within the CAISO grid, it is considerably more costly to build than the Sunrise Powerlink. The higher capital cost is due to the additional length of the 500 kV transmission line between the Central substation and the Serrano-Valley 500 kV transmission line. SDG&E estimates that the Full Loop transmission alternative will result in a levelized cost of \$246 million per year on the "low-end" and \$328 million per year on the "high-end" with projected benefit-to-cost ratios of 1.01/1 and 0.76/1, respectively.

D. In-Area Generation Alternatives

The in-area generation alternatives are not economic compared to the "no project" reference case and clearly less economic than the Sunrise Powerlink. While the in-area combined cycle alternative reduces net energy costs for consumers within the CAISO controlled grid, it takes a much larger capital investment to achieve the same level of energy benefits as the Sunrise Powerlink: \$1.884 billion for the in-area combined cycle alternative versus \$1.015 billion to \$1.437 billion for the Sunrise Powerlink.

Not surprisingly, the in-area gas turbine alternative provides a lower level of energy benefits than does the in-area combined cycle alternative. This is because the simple cycle gas-turbines are modeled with an 8,500 BTU/kWh heat rate versus 7,000 BTU/kWh for the combined cycle units. The capital costs for the in-area gas turbine,



CHAPTER V

ECONOMIC BENEFITS



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: Jan Strack

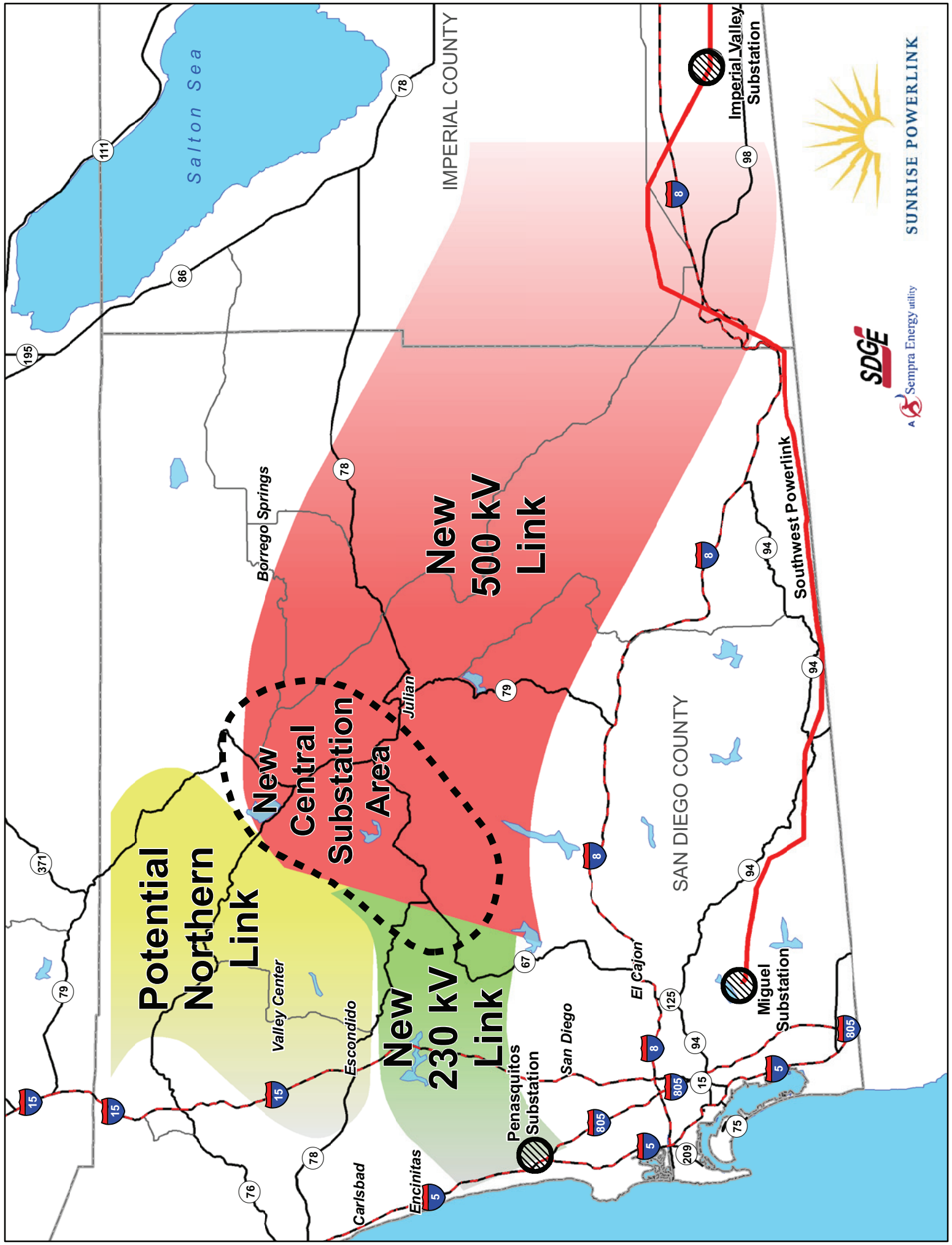
Victor Kruger

reduction are offset by a loss of revenues from utility-owned generation and by a decline in congestion revenues. Moreover, including the fixed costs of the LEAPS project and the associated transmission facilities drives the benefit/cost ratio for the first sensitivity well below 1.0/1.

The second sensitivity (relative to the “no project” reference case) provides larger energy benefits than those for the Sunrise Powerlink. This is consistent with the results of the “full loop” transmission alternative (described in Chapter VI) which indicate that completing the 500 kV loop through the Southern California load centers has significant energy benefits for CAISO consumers. Nevertheless, when the fixed costs of the LEAPS project and the associated transmission are included the benefit/cost ratio for the second sensitivity is also well below 1.0/1 (assuming the “high” cost estimate for the Sunrise Powerlink portion of the sensitivity).

Both the first and second sensitivities are likely to significantly understate the energy benefits associated with the LEAPS project. The simulation model used by SDG&E to dispatch the WECC grid is currently incapable of dispatching pumped storage generation on an economic basis. Specifically, the model does not currently have the ability to make dispatch decisions based on the *price* of energy that the facility would have to pay to perform the off-peak pumping, and the *price* of energy that the facility would receive for its on-peak generation. Instead the simulation model dispatches pumped storage generation on the basis of relative hourly *load levels*, pumping during enough “low” load hours to fill the upper storage reservoir and generating during “high” load hours to empty the reservoir. The results for LEAPS sensitivities confirm that on an annual basis the LEAPS project is being run at a net operating loss. This is an illogical outcome because the unit owners would always elect not to run if the alternative was to

APPENDIX II



SUNRISE POWERLINK



A Semptra Energy utility

APPENDIX VI

The Imperial Valley – Central alternative or Sunrise Powerlink (diagramed above and shown in Figure VI-2) includes a 500 kV line from SDG&E’s existing Imperial Valley Substation to a new Central Substation, somewhere near the center of San Diego County, which then ties into SDG&E’s existing Sycamore Canyon substation via a pair of 230 kV lines.

Also on the final short list of four alternatives, the Sunrise Powerlink was one of the best alternatives with regard to its technical performance. It also provided a high level of relief to flows into the Miguel Substation.

With regard to economic performance, this alternative had the highest consumer benefit when looking at just SDG&E customers. From the perspective of all CAISO ratepayers, the Sunrise Powerlink had the second highest benefit, behind the Full Loop alternative.

Similar to the Full Loop alternative, the Sunrise Powerlink would provide direct access to renewable resources in eastern San Diego County and in the Imperial Valley. The alternative would also free up some amount of capacity on the existing Imperial Valley – Miguel 500 kV transmission line (the Southwest Powerlink or “SWPL”) and thereby allow renewable energy resources to economically connect to this existing 500 kV line. This could encourage renewable energy development that might otherwise not be feasible.

The Sunrise Powerlink also had among the lowest system losses and offers the best long-term expandability, being capable of expansion to either North Gila or a Full Loop at some point in the future.

EXHIBIT R

**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

**Sunrise Powerlink Transmission Line Project
Data Request No. 15 - Modified**

Alternatives

Background. In the original Data Request No. 15 (June 27, 2007), we asked for information on SDG&E's plans for future transmission system expandability with regard to the 500 kV transmission system. SDG&E's response (July 8, 2007) stated that SDG&E could not speculate on the timing and specific routing of a 500 kV future expansion, but that there could be a connection to SCE's Valley-Serrano 500 kV system.

- ALT-85 [Follow-up to DR 15] **500 kV Expandability.** The Assigned Commissioner's Ruling of July 24, 2007 shows that SDG&E considers the opportunity for expansion at the 500 kV level to be an important factor to be taken consideration in the Commission's decision on the Proposed Project and alternatives. We must further examine this issue in order to define analysis requirements for both the Proposed Project and the alternatives. In order for environmental staff to fully analyze the potential impacts of expansion at the 500 kV level, please answer the following questions regarding a future 500 kV transmission line that would connect with SCE's transmission system.
- a. Please define the anticipated purpose and need (or objectives) for expansion at the 500 kV level so we can develop route options that meet those objectives.
 - b. Given that a 500 kV expansion of the Proposed Project must be defined and analyzed in this EIR/EIS, please confirm whether the route defined in Data Response 1 (ALT-35) as the "Full Loop Alternative" would be the most likely 500 kV expansion route from the Central East Substation. If a different route from that described in ALT-35 would be more appropriate for consideration at this time, please define that route and provide maps and GIS data.
 - c. If the most likely 500 kV route would differ from the LEAPS Project 500 kV route, please explain why the LEAPS 500 kV route is not followed. The 500 kV Full Loop Alternative route (described in SDG&E's response to data request ALT-35) would pass through developed multi-use areas along the southwest lakeshore of Lake Elsinore, and as SDG&E notes in the July 8, 2007 response, additional constraints along the ALT-35 route may need to be avoided.

**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

SDG&E Response ALT-85:

a. Even though SDG&E has no specific plans for expandability at this time, it was discussed in the SDG&E Sunrise application and prior data request responses.¹ Expandability was not specific to either 500 kV or 230 kV transmission lines. However, in response to this data request, SDG&E will limit the response to 500 kV expandability from the proposed Central East Substation. The 500 kV expandability discussion is best described in terms of the "Full Loop" alternative.

The "Full Loop Alternative", which would entail a transmission connection between the proposed Central East Substation and SCE's system at Serrano/Valley, has been reviewed in the open stakeholder process, including the CAISO Southwest Transmission Expansion Plan (STEP) group. The following links provide several such presentations.

- October 28, 2005: <http://www.caiso.com/14ba/14bad900305f0.pdf>
- August 9, 2005: <http://www.caiso.com/docs/2005/08/11/2005081111135011214.pdf>
- June 29, 2005: <http://www.caiso.com/docs/2005/07/06/200507061323461646.pdf>
- April 27, 2005: <http://www.caiso.com/docs/2005/05/06/2005050607570520232.pdf>
- February 9, 2005: <http://www.caiso.com/docs/2005/02/10/2005021015393819902.pdf>
- December 8, 2004: <http://www.caiso.com/docs/2004/12/13/200412131010411299.pdf>
- October 1, 2004: <http://www.caiso.com/docs/2004/10/01/200410010807416978.pdf>

From at least October 1, 2004 (when SDG&E explicitly solicited stakeholder input), SDG&E has openly presented the concept of ultimately "Completing the 500 kV System" (please refer to slide 16 of the October 1, 2004 presentation for a conceptual diagram of what is now referred to as the "Full Loop Alternative").

In addition, SDG&E's prepared testimony in this docket specifically discussed potential future expansion in the context of its finding that the "Full Loop" could not presently be justified on need or economic grounds. **Amended Application (August 4, 2006), Vol. 2 (Purpose and Need), pp. VI-14-15** (Attachment A), and **Appendix I-1 - CAISO CS RTP report (July 2006) p. 68** (Attachment B). This testimony also discussed that a "second SWPL" alternative lacks expandability (**id., p. VI-5**) (Attachment C). **SDG&E's December 14, 2005 Application** included testimony that discussed expandability of Sunrise in several contexts: the "Full Loop" interconnection with SCE (**Vol. 2, at pp. II-3, VI-8-9, Appendix II, Figure II-1, Appendix VI-iv**) (Attachment D), as one of the economic scenarios (**V-28**) (Attachment E), and the expandability of the Central substation at 500 and 230 kV (**id., p. II-4**) (Attachment F).

In the August 2006 Sunrise PEA filing, SDG&E first mentioned expandability in **Chapter 2, section 2.2.4, page 2-21** (Attachment G) under the section Project Objectives. Objective 2 reads: "Provide transmission facilities with a voltage level and transfer capability that (a) allows for prudent system expandability to meet both anticipated short-term (2010) and long-term (2015 and beyond) load growth through a total San Diego area import capability of at least 4,200 MW (all lines in service) and 3500 MW (under G-1/N-1 contingency conditions) and (b) supports regional expansion of the electric grid."

¹ 11/17/06 response of Data Request #1, ALT-14 (b), ALT-20, aLT-33, 34, 35, 12/13/06 response of Data Request #4, ALT-63, and 7/8/07 response to Data Request 15, ALT-85.

**A.06-08-010 SUNRISE POWERLINK
SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

Also, SDG&E used the project objectives – including expandability – in Chapter 3 of the PEA to identify and compare feasible alternatives to Sunrise. For example, after comparing in-area generation to Sunrise in Chapter 3 of the PEA, page 3-1 and page 3-2 (Attachment H), in-area generation did not meet Objective 2 because this alternative does not satisfy regional expansion goals and could be compromised by limits on economically feasible air emission offsets. This objective also played a role in substation siting alternative as discussed in Chapter 3, page 3-5, section 3.2.2 (Attachment I), stating, “The location of the substation is a key element, and somewhat precursory, to the route development and selection process. Access for construction and maintenance and the ability to site future circuits for network expansion and reinforcement are important factors in determining the specific requirements of the configuration of not only the substation, but also the overall Alternative.”

The CPUC referenced the eight project objectives listed in Chapter 2 and Chapter 3 of the PEA in its September 15, 2006 Notice of Preparation/Notice of Public Scoping Meetings (Attachment J) and stated, “The objectives presented by SDG&E will guide the development of alternatives to the SRPL, but because CEQA does not require that alternatives meet all objectives, these objectives do not unreasonably constrain the alternatives development process.”

In a CPUC ordered workshop held on October 13, 2006 (Attachment K), SDG&E presented the eight objectives and discussed the need to consider expandability as well as the rest of the objectives as part of the environmental review process. However, in the January 22, 2007 CPUC Second Scoping Notice, the CPUC narrowed the eight more qualitative objectives to three high level objectives, essentially the purpose and need. SDG&E held a conference call with the CPUC (with CPUC legal counsel in attendance) and discussed the implications of limiting the objectives. SDG&E followed up with a comment letter to the CPUC dated February 24, 2007 (Attachment L) explaining the need to maintain the objectives by stating, “This is because the eight objectives provide the numerical and qualitative means to determine the degree to which project alternative could attain these objectives.” Thus, by narrowing the number of objectives to the three high level purpose and need goals, project objectives such as expandability lose the necessary focus required for the CEQA/NEPA analysis.

As explained in the 11/17/06 response to Data Request #1, ALT-14(b) ALT-20, ALT-33, ALT-34, and ALT-35 (Attachment M), 12/13/06 response to Data Request #4, , ALT-63 (Attachment N) and most recently in the 7/8/07 response to Data Request #15, ALT-85 (Attachment O), SDG&E does not have any specific plans for future 500 kV or 230 kV circuits out of the proposed Central East Substation. In the current 10-year planning horizon, SDG&E does not expect the need to expand 230 kV or 500 kV circuits from that substation. Thus, it currently cannot provide routing, timing nor need information for any potential future circuits.

As noted in testimony at the recent Sunrise need evidentiary hearings, the ISO has recognized that Sunrise will provide options for future expansion of import capabilities.² Further, SDG&E there confirmed that no plans currently exist for future expansion, how future expansion might actually play out cannot be foreseen at this time, and that the benefits of having the option for future expansion cannot be quantified at this time³.

² Transcript of July 9, 2007 at page 105, line 17 through page 106, line 12.

³ Transcript of July 10, 2007 at page 309, line 25 through page 311, line 17.

**A.06-08-010 SUNRISE POWERLINK
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CPUC ENERGY DIVISION DATA REQUEST #15 - MODIFIED**

Finally, SDG&E testified that given the choice between maintaining the ability to have the option to expand the facilities in the future and getting an earlier decision from the Commission, SDG&E has no other choice but to forgo the option and take the earlier decision.⁴

Prudent planning requires consideration of future expansion when siting a substation or transmission line. Siting a substation with capability of future circuits in an area where there is little or no possibility for future circuit ingress or egress disregards expandability. For example, the substation alternative associated with the CPUC I-8 Alternative route is surrounded by Cleveland National Forest. Routes for future circuits whether it be 500 kV or 230 kV circuits will be more constrained than future circuit routes out of the proposed Central East Substation site.

To summarize, expandability, while it is something that both the ISO and SDG&E have identified as having some value and is generally part of prudent transmission planning, should not be used to expand the current scope of the Sunrise Project.

- b. In response to Data Request #1 ALT-33 and ALT-35, dated December 13, 2006, SDG&E speculated on a future 500 kV route for the potential Full Loop option. The conceptual route proffered in response to said Data Requests was meant to be indicative of what might be considered at a later date. SDG&E has not undertaken an analysis to identify potential routing alternatives since no need for such an expansion exists at this time. And, as stated in its July 8 2007 response to Data Request #15, ALT-85, it is not possible to reasonably determine a future route when the future purpose and future need of any future circuit and the potential timing are not known at this time. Even if SDG&E speculated on a particular route today, it will likely change due to changed conditions, increased constraints, and other siting considerations.
- c. SDG&E has not undertaken an analysis of the LEAPS route or potential alternatives. It is difficult to determine the most likely route for future circuits for which the need, timing, and routing constraints is unknown. There is simply no detail to evaluate at this time. But, if one speculated on a future route, then it is possible that it would follow the LEAPS Project 500 kV route (TE-VS) if and when a determination is made that there is a need. SDG&E did not provide a route that follows the LEAPS Project in its ALT-33 and ALT-35 response due to the uncertain nature of the LEAPS Project. Even if a LEAPS Project route was determined to be the best assumption a route from the proposed Central East Substation to the LEAPS interconnection point would need to be developed.

⁴ Transcript of July 10, 2007 at page 311 line 17 through page 312 line 2.

EXHIBIT S



CHAPTER V

ECONOMIC BENEFITS



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: Jan Strack

Victor Kruger

run at a loss. What is happening in the model runs is that the pumped storage facility is being operated during hours when it would actually be uneconomic to operate, and not operating when it would be economic to do so. With improved modeling functionality, the energy benefits for the LEAPS sensitivities would improve and the benefit/cost ratios would increase accordingly.

A third sensitivity assumes that in addition to the Sunrise Powerlink, Load Serving Entities (“LSEs”) within the CAISO control area enter into arrangements whereby 400 MW of wind generation is built in the northern Baja region of Mexico. The results of this sensitivity indicate that compared to building the Sunrise Powerlink without the Mexico wind generation, the Mexico wind generation provides substantial additional energy benefits to CAISO consumers. These benefits come from the producer surplus that is created by selling the wind generation into the market, i.e., the net of market revenues less variable costs of operating the wind machines. However, when the capital costs of the wind generation are taken into account the result is overall slightly less beneficial to CAISO consumers than building the Sunrise Powerlink by itself.

A fourth sensitivity assumes that in addition to the Sunrise Powerlink, 500 MW of in-area wind generation is built in the Warners substation area rather than in the Boulevard/Crestwood area as is assumed for all other cases. All other cases, including the “no project” reference case, assume the Boulevard/Crestwood area wind generation is connected to the Imperial Valley-Miguel 500 kV line via a 230 kV trunk line and a new 500/230 kV substation south of Boulevard substation. The fourth sensitivity assumes the Warners wind generation is connected via a 230 kV line to the 230 kV bus at Central substation.

EXHIBIT T



CHAPTER IV


RENEWABLE ENERGY



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: ~~Vincent D. Bartolomucci~~ 

are to be able to cost-effectively supply energy markets outside of the Imperial Valley area.

SDG&E's 2004 Renewable RFO results showed that another [REDACTED] of new projects were offered. These projects were located in the Crestwood/Boulevard area which is located in the eastern portion of San Diego County. Results of SDG&E's "least-cost, best-fit" analysis showed that [REDACTED] that bid in that area all proposed to develop for costs that were economically attractive. However it was determined that a new 138 kV transmission line would need to be built to accommodate the delivery from the four proposed bidders at a cost of \$344 million. The cost of building the new 138 kV line for these four projects, when added to the projects' bid prices, rendered the projects uneconomical. In addition, further development of this area appears problematic since the 138 kV line would only have accommodated the projects currently bid, with the next project requiring additional upgrades or construction of another transmission line in the area. In any event, when the cost of the new 138 kV transmission line was added to the overall cost of the four bids, all four projects were eliminated from further consideration in this RFO.

SDG&E's Electric & Gas Procurement Department is of the understanding, based upon publicly available information, that SDG&E's Transmission Planning group is in the process of pursuing alternative means of accessing the wind resources in the Eastern portion of San Diego County and further, that the development of transmission to interconnect potential wind generation areas in San Diego County is economically practical only if the Sunrise Powerlink is built.¹⁵ Additionally, the potential exists for

¹⁵ The Electric & Gas Procurement Department is considered a marketing entity under FERC 2004 Transmission rules and therefore is restricted from access to any non-public transmission data. This section was drafted independent of other sections of the "Purpose and Need" statement which—prior to its filing with the Commission—may have contained non-public transmission information.

development of large scale solar resources in the Borrego area of San Diego County as well as wind resources in the La Rumorosa area of Baja, Mexico. As with development of resources in the Crestwood/Boulevard area, development of the resource potential in Borrego and La Rumorosa will depend upon SDG&E's ability to find a cost-effective way to access these resources and deliver the energy to its load center.¹⁶

As the Company's projections make clear, a substantial portion of SDG&E's planned additions will depend upon development of new potential resources. SDG&E's 2004 RFO indicates that [REDACTED] of future renewable potential as related to retail sales, may be contingent upon SDG&E's ability to economically access the resources located in the Imperial Valley area and the eastern region of San Diego County.

b. Transmission Assumptions from SDG&E's TRCR

As described above, SDG&E anticipates that transmission system upgrades will be required to accommodate the substantial quantities of renewable resources whether they are in or out of SDG&E's service territory. As part of the overall evaluation process performed in conjunction with SDG&E's 2004 Renewable RFO process, SDG&E determined that the ability to transmit energy from renewable wind resources located in SDG&E's eastern service area is limited by the existing 69kV system. The existing 69kV subtransmission system will likely require significant upgrades to support the delivery of power from identified generation projects as well as future generation projects. The high transmission upgrade costs could be prohibitive for any one individual developer. SDG&E's Transmission Ranking Cost Report issued on August 22, 2005 ("TRCR") further substantiates this conclusion. The 2005 TRCR gives a good indication of the

¹⁶ SDG&E's ability to purchase from resources in Mexico will also be dependent upon approvals from both the Commission and CEC as to whether such resources will count towards RPS compliance.



CHAPTER III

RENEWABLE ENERGY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: ~~Vincent D. Bartolomucci~~

SDG&E's 2005 RFO. SDG&E's Electric & Gas Procurement Department understands, based upon publicly available information, that SDG&E's Transmission Planning group is in the process of pursuing alternative means of accessing the wind resources in the Eastern portion of San Diego County.³ SDG&E's ability to contract with these [REDACTED] developers will depend upon the feasibility of adding new transmission facilities to access resources in the Crestwood area by no later than 2010.

Lastly, the potential exists for development of large scale solar resources in the Borrego area of San Diego County. As with development of resources in the Crestwood/Boulevard area, any future development of the resource potential in Borrego area will depend upon SDG&E's ability to find a cost-effective way to access these resources and deliver the energy to its load center. To date, SDG&E has received only one offer from a renewable project proposing to locate in the Borrego area⁴ and, as such, at this time SDG&E is not able to estimate how much potential may realistically exist for development of central station solar facilities in the Borrego area. Further, given the lack of proposal to date, it is unlikely that significant development of central station solar could be accomplished in this area prior to 2010.

³ The Electric & Gas Procurement Department is considered a marketing entity under FERC 2004 Transmission rules and therefore is restricted from access to any non-public transmission data. This section was drafted independently of other sections of the Amended Application as a precaution against the possibility that—prior to its filing with the Commission—the other sections may have contained non-public transmission information.

⁴ As part of SDG&E's 2004 renewable RFO, SDG&E received an offer for a 26 MW new solar project; however the project did not make SDG&E's short-list.

EXHIBIT U

1 A I don't know the answer to that question.

2 ALJ WEISSMAN: Okay. Thank you, Mr. McClenahan.
3 That completes your testimony, and you are excused.
4 Thank you for your assistance.

5 MR. WALSH: Your Honor, I have one additional
6 redirect question that might be helpful.

7 ALJ WEISSMAN: Well, off the record.

8 (Off the record)

9 ALJ WEISSMAN: On the record.

10 Mr. Walsh.

11 REDIRECT EXAMINATION

12 BY MR. WALSH:

13 Q Mr. McClenahan, in response to some of the
14 ALJ's questions, a new substation was discussed
15 involving interconnecting to the Southwest Powerlink.
16 When and how were you made aware that there
17 might need to be a new substation to effect delivery
18 from those wind projects?

19 A I became aware of it by reading a California
20 ISO interconnection feasibility study provided to me by
21 the developer. I think that's -- I believe that was the
22 source. I know it's in that document. It may be in
23 other documents as well, but that's the one I recall.

24 Q And the time frame that you reviewed that or
25 the -- roughly the --

26 A The end of last year.

27 MR. WALSH: Thank you.

28 ALJ WEISSMAN: All right. Thank you. Appreciate

EXHIBIT V

1 that perhaps at the same location, so that will
2 influence the interconnect as well.

3 Q So the attempt is to determine the cost of the
4 substation?

5 A No, not at this stage.

6 As I said, that just happened a couple of
7 weeks ago or a week ago.

8 Q If a substation of this type were built
9 specifically for the Stirling Projects, who would own
10 the substation?

11 A Well, Stirling project's a little bit
12 different. They're contemplating building transmission
13 all the way to Imperial Valley Substations. Not that
14 far, it's -- but from their site to us, they would build
15 a transmission and tie into the existing substation.

16 The gen tie, the facility from their location
17 to us, would be their facility.

18 The substation they connect into is owned by
19 San Diego Gas & Electric, and portions of it are owned
20 by Imperial Irrigation District.

21 Q We are going to dip into the band-aid box a
22 couple minutes, here.

23 We talked about -- you referred to band-aid
24 projects, including the addition of peakers; and SDG&E
25 recently announced that it had signed agreements with
26 two different facilities -- two different contracts for
27 peakers; is that correct?

28 A That is correct.

1 right?

2 A No. They are separate.

3 Q Oh, those are in addition to the 1580?

4 A Yes.

5 Q And those 354 could connect to the San Diego
6 system without tying to SWPL?

7 A Yes, with substantial upgrades.

8 Q And would those substantial upgrades be more
9 or less expensive than tying them to SWPL?

10 A We haven't done that analysis.

11 Q You haven't done either part, or you haven't
12 done both parts so you can't compare?

13 Have you done an analysis of the cost of tying
14 them to SWPL?

15 A No, we not done the analysis of the cost of
16 tying the 354 to SWPL, to my knowledge.

17 Q Have you done an analysis of the cost of tying
18 the 354 to the San Diego system without going to SWPL?

19 A I believe that -- that was the number. We did
20 look at a large amount of generator interconnections in
21 the Crestwood area.

22 Q Of the 1580 megawatts, how much of that is in
23 the San Diego area that's not part of the 354?

24 A I would have to go to the ISO queue and look.
25 I'm not sure.

26 Q Do you have a copy?

27 A I don't know if it's the latest. I've got a
28 copy.

1 Q My question was do you have a copy.

2 A Oh, I'm sorry. Yes, I do.

3 Q Can I direct you to queue Items 106-A and 112,
4 please.

5 A Yes.

6 Q Are those --

7 A 106 and 112?

8 Q 106-A and 112.

9 A Yes.

10 Q Are those wind projects in San Diego County
11 that propose to interconnect with SWPL?

12 A Yes, they are.

13 Q And how many megawatts do those total?

14 A 460.

15 Q Have you done an analysis of the cost of tying
16 those to SWPL?

17 A They are in the interconnection study process
18 right now. I don't know -- they're in progress. We
19 haven't completed those studies yet.

20 Q And those projects went into the queue in June
21 of 2006?

22 A That is correct.

23 Q So you have been studying them for just over a
24 year so far?

25 A Doesn't necessarily mean when they entered the
26 queue that's how long we've been studying them. A lot
27 of times we wait on information from the developers to
28 give us the information that's needed for models.

1 Sometimes they change their plan of service.

2 Q Now you were suggesting in earlier testimony
3 that virtually all of the 1580 megawatts, and thus
4 virtually all of these particular 460, would have
5 deliverability problems trying to deliver over SWPL; is
6 that correct?

7 A That is.

8 Q Have you done any analysis of the feasibility
9 and cost of delivering these 460 megawatts directly to
10 the system, like the 364 megawatts of other project in
11 San Diego County?

12 A No.

13 Q Do you have a professional opinion as to whether
14 they are deliverable without going to SWPL?

15 A There was a lot in there, so for me to give a
16 professional opinion, can you please repeat what you're
17 asking me to give the professional opinion on?

18 Q Okay. I'm asking a "yes" or "no" question.

19 Do you have a professional opinion as to
20 whether the 460 megawatts of San Diego County wind in
21 the ISO queue as Projects 106-A and 112 are deliverable
22 without tying into SWPL?

23 A Without tying into SWPL?

24 Q Yes.

25 A No, I would -- my professional opinion would
26 be that they would not be.

27 Q Have you done any analysis looking at non-SWPL
28 alternatives?

1 A Yeah, if you -- we have looked at wind
2 projects. The ones above in the Crestwood area, we have
3 looked at those. And like I had said, the East County
4 ones would require substantial upgrades.

5 Q Well, that's a money question.

6 I'm asking about feasibility, because you have
7 testified that you're not the expert on cost of things.

8 A Right.

9 Q Since you want to divert, by Crestwood you are
10 talking about ISO queue Projects 25, 26 and 32, which
11 total 364 megawatts?

12 A Yes.

13 Q And those have been in the queue for three
14 years now, right?

15 A That is correct.

16 Q And those projects, you concluded, could be
17 tied directly without going through SWPL at a cost that
18 you considered high?

19 A That is correct.

20 Q But you have not studied what it would cost to
21 tie them to SWPL?

22 A We are in the process of studying queue
23 positions that you mentioned below the 160 and the 300,
24 but those studies are not complete yet.

25 Q Okay. Now let's go back to where I was a
26 minute ago, 106-A and 112, the 460 megawatts that are in
27 the queue as tying to SWPL.

28 A Okay.

1 about, it would have to be either 230 kV line or 500 kV
2 line because the existing or even upgrade of our small
3 lines would not be able to handle that type of
4 generation addition.

5 Q So in assuming the cost for the substation,
6 you assumed a 230 kV substation; is that correct?

7 A The substation -- we have not developed the
8 cost for the substation. The substation at least that I
9 am thinking about would be the 500 to 230 substation.
10 So the generation connection would be at the 230 level,
11 if that's what you mean, your Honor.

12 ALJ WEISSMAN: Okay. Thank you.

13 Mr. Barnes, has the information arrived from
14 your offices?

15 MR. BARNES: If Mr. Yari's staff could explain
16 what it is that has been changed to the witness.

17 ALJ WEISSMAN: Okay.

18 (Off the record)

19 ALJ WEISSMAN: On the record.

20 Mr. Barnes.

21 Your Honor, a statement of counsel.

22 Mr. Yari has received from his staff a
23 correction to the supplemental information provided RPCC
24 last night. It also affects, I think, one other table,
25 one other exhibit.

26 Mr. Yari, would you please put on the record
27 the corrections.

28 THE WITNESS: The correction that I would like to

EXHIBIT W

1 earlier. When is that substation assumed to come on
2 line?

3 A I don't know, and I don't believe that there
4 is a service date established for that.

5 Q Who is the developer for the substation?

6 A There is no developer. We don't even have a
7 site, your Honor, at this point. It's purely, at least
8 from my point of view, a proposal, a hyp- -- not a
9 hypothetical, but it's not a project per se. It's an
10 idea that's being looked at.

11 Q And is it an idea that was being developed
12 solely internally at the company or is it something that
13 was requested or asked about by some outside entity?

14 A My understanding is that it was triggered
15 based on the renewable generation interconnection that
16 is directed to our planning department.

17 Q And so is it anticipated that -- is the idea
18 behind the substation that it would allow for conveyance
19 of wind power from Mexico?

20 A Where the generators are located, that
21 information is not available to me, so I have no way of
22 knowing what the generation is.

23 At a very high level, my knowledge is that
24 there has been renewable interconnection requests to
25 SDG&E in that part, in the southern part. Whether it's
26 Mexico or southern San Diego, the specific locations of
27 it, I don't know.

28 As I mentioned, it's purely conceptual. We

1 don't have the land. There's no site. There's no cost.

2 Q You've talked a couple of times, in fact just
3 a minute ago, about this notion of trying to form
4 alliances and do other things to hedge cost increases.

5 Have you had an opportunity to explain on the
6 record all the different things you are going to do?

7 I don't want you to repeat anything you've
8 said so far. Are there other examples of hedging
9 strategies that the company is pursuing or could pursue
10 in order to try to keep the costs for the project in
11 line?

12 A Without being redundant, your Honor, I know
13 that our procurement departments are very actively
14 working on developing alliances, looking at contractors,
15 perhaps bundling, ordering of material to reduce
16 the cost; bundling different pieces of work for
17 the contractors to reduce the contract costs. And we
18 have issued RFPs, looking at the suppliers for
19 the towers, the steel, for the lattice towers.

20 The biggest -- from an engineering point of
21 view from -- my biggest concern in this whole project as
22 the engineer involved is the long lead time for
23 the underground cable.

24 Q So pre-buying of materials would be one form
25 of a hedge. And would --

26 I think you probably have to say something out
27 loud so the reporter can hear it.

28 That was a yes? You're nodding your head in

EXHIBIT X



CHAPTER III

RENEWABLE ENERGY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: ~~Vincent D. Bartolomucci~~

renewable resources within SDG&E's service area is expected to come from wind generation along the eastern edge of the SDG&E service territory. SDG&E estimates that future wind potential in the Crestwood area of its service area could reach 500 to 600 MW, however most of this potential will require new transmission infrastructure. Further, even with full development of the estimated potential in the Crestwood area, SDG&E will still need to acquire more than half of its renewable energy requirements from areas outside of San Diego County.

SDG&E received 308 MW of wind related offers in its 2004 RFO and another [REDACTED] of wind related offers in its 2005 RFO. The proposed location of these projects is in the Crestwood/Boulevard area which is located in the eastern portion of San Diego County. Results of SDG&E's 2004 RFO "least-cost, best-fit" analysis showed that four (4) projects that bid in that area all proposed to develop for costs that were economically attractive. However it was determined that a new 138 kV transmission line would need to be built to accommodate the delivery from the four proposed bidders at a cost of \$344 million. The cost of building the new 138 kV line for these four projects, when added to the projects' bid prices, rendered the projects uneconomical. In addition, further development of this area appears problematic since the 138 kV line would only have accommodated the projects currently bid, with the next project requiring additional upgrades or construction of another transmission line in the area. In any event, when the cost of the new 138 kV transmission line was added to the overall cost of the four bids, all four projects were eliminated from further consideration in this RFO.

SDG&E is currently in negotiations with [REDACTED] [REDACTED] area that have proposed a combined [REDACTED] in

1 time.

2 Q When might this power purchase agreement be
3 finalized and provided to the Commission?

4 A We would have hoped it would be done by now.
5 But the agreement is, I would say, 99 percent complete.
6 So I think it's very close, but I can't give you an
7 exact date.

8 Q Now, just to round this out a little bit. I'm
9 looking at page 3-4 of your opening testimony. In
10 the first few lines here, you discuss how you understand
11 based on publicly available information that your
12 transmission planning group is pursuing alternative
13 means of accessing the wind resources in the east
14 county. Do you see that?

15 A I do.

16 Q Now is this 500/230 kV substation that we've
17 been discussing, is that the alternative means that
18 you're referring to here?

19 A Yes.

20 Q Coming out of the 2008 RFO, SDG&E has signed
21 contracts for 131 megawatts so far, is that correct?

22 A I believe we filed for 133.

23 Q Is SDG&E still in discussion with other
24 bidders from that RFO regarding bids that were
25 submitted --

26 A Yes.

27 Q -- in this RFO? Okay.

28 How much capacity are you still looking at?

EXHIBIT Y

1 earlier. When is that substation assumed to come on
2 line?

3 A I don't know, and I don't believe that there
4 is a service date established for that.

5 Q Who is the developer for the substation?

6 A There is no developer. We don't even have a
7 site, your Honor, at this point. It's purely, at least
8 from my point of view, a proposal, a hyp- -- not a
9 hypothetical, but it's not a project per se. It's an
10 idea that's being looked at.

11 Q And is it an idea that was being developed
12 solely internally at the company or is it something that
13 was requested or asked about by some outside entity?

14 A My understanding is that it was triggered
15 based on the renewable generation interconnection that
16 is directed to our planning department.

17 Q And so is it anticipated that -- is the idea
18 behind the substation that it would allow for conveyance
19 of wind power from Mexico?

20 A Where the generators are located, that
21 information is not available to me, so I have no way of
22 knowing what the generation is.

23 At a very high level, my knowledge is that
24 there has been renewable interconnection requests to
25 SDG&E in that part, in the southern part. Whether it's
26 Mexico or southern San Diego, the specific locations of
27 it, I don't know.

28 As I mentioned, it's purely conceptual. We

EXHIBIT Z

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SDG&E'S 8/6/07 RESPONSE TO
CPUC ENERGY DIVISION DATA REQUEST #17**

Sunrise Powerlink Transmission Line Project Data Request No. 17

Project Description

PD-24 **Connected Actions.** As part of the EIR/EIS preparation process for the Sunrise Powerlink Project, we are evaluating projects in the area that could be considered under CEQA or NEPA as “connected” or “indirect” actions, or “cumulative projects”. As defined in NEPA (40 C.F.R. 1508.25(a)(1)), actions which are considered "connected actions" are the following

- (i) are automatically triggered by the proposed action,
- (ii) cannot or will not proceed unless the proposed action occurs first or simultaneously, or
- (iii) are interdependent parts of a larger action and depend upon the larger action for their justification.

As defined in the Assigned Commissioners Ruling of July 24, 2007, there are a number of projects that may need to be analyzed as connected actions as a result of facts disclosed in SDG&E's testimony. Questions on each of these are presented below.

a. Jacumba Substation. Testimony in the Phase 1 hearings indicated that SDG&E is studying a new 500/230 kV substation that would interconnect new wind generation to the existing Southwest Powerlink and that this wind generation would not be deliverable unless the proposed Sunrise Powerlink Project is built. The testimony describes the location as being in the vicinity of Jacumba, near the San Diego/Imperial County border.

- i. Please describe the purpose of the Jacumba Substation and the likelihood that it, or a substation that serves a similar purpose, will be proposed for construction.
- ii. Identify on a map the locations that SDG&E is studying for construction of this future substation and all information regarding the most likely location of this future substation, its size, and the routes of the 230 kV transmission lines that could connect to wind generation areas.
- iii. Describe the likely timing of the construction of the substation and 230 kV transmission line relative to completion of the proposed Sunrise Powerlink Project.
- iv. Describe whether the substation and 230 kV line could be constructed in the absence of the Sunrise Powerlink Project.
- v. Identify, to the greatest extent possible, the location of the wind generation that would be interconnected at the new 500/230 kV substation.
- vi. What is the magnitude of the wind generation required to create the need for this new transmission line and substation?

b. Renewable generation in Imperial County. SDG&E's testimony identified over 7,100 MW of renewable generation that could interconnect to the SDG&E system. The testimony says that many, if not most, of these renewable projects would stall or fail without new transmission.

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- i. What portion of the 7,100 MW of renewable development does SDG&E believe is contingent on Sunrise being built? Please define the amount, location, and type of renewable energy projects in the CAISO queue that could connect to the SDG&E system but which require construction of Sunrise.
- ii. What renewable development would occur, if any, in the Imperial Valley or Mexico without Sunrise? Please list the renewable development projects assumed by SDG&E to occur in "reference case" of SDG&E's economic assessment [include the name of each renewable project, megawatt capacity, type (wind, solar, etc.), and point of interconnection].
- iii. Specifically what renewable development could occur only as a result of Sunrise (or any 500 kV transmission alternative)? Please list the renewable development projects assumed by SDG&E to occur in the Sunrise Powerlink case "Case 201" of SDG&E's economic assessment [include the name of each renewable project, megawatt capacity, type (wind, solar, etc.), and point of interconnection], then list the renewable projects assumed to occur in each case that includes a 500 kV alternative (i.e., Case 203: LEAPS and Case 212: New 500 kV Parallel to SWPL).

SDG&E Response PD-24:

- a. With respect to the "Jacumba Substation" questions posed by the CPUC Energy Division, SDG&E responds as follows:

- i. A new substation is needed to facilitate the interconnection of renewable generation in eastern San Diego County. This area, near the San Diego County/Imperial County/Mexico border, is noted for its strong wind potential, with very favorable wind power classifications by the Bureau of Land Management. Having a substation near the energy source for renewable generation provides accessibility and promotes the successful interconnection of renewable generation. It is a key element in SDG&E achieving the 20% renewable energy resources goal by 2010.

This new substation could also be configured in such a way as to improve reliability to electric customers in eastern San Diego County. The project would include a new source to the existing 69kV system thus improving the overall reliability by transforming a 19 mile 69kV radial branch into a more reliable 69kV loop configuration.

For these reasons, SDG&E is contemplating a project to install a 500 kV substation on the **Southwest Power Link (SWPL)**, not the Sunrise Powerlink, in eastern San Diego County that could include 230 kV and 69 kV switchyards and a new 69kV line from the new substation to Boulevard Substation.

Subject to interconnection cost studies being completed, SDG&E's present expectation is that it is likely SDG&E will propose this project for construction, irrespective of Sunrise, as required by FERC to provide electric interconnection to generators who have applied for interconnection via the CAISO Large Generator Interconnection Procedures (LGIP).

It should be noted that SDG&E has repeatedly identified the need for this substation in filings with the CPUC and in response to parties' data requests. The following is a chronological listing of documents and data request responses that have been provided to the CPUC:

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9/8/2005 – SDG&E's Amended Renewables Transmission Ranking Cost Report, page 12

12/15/2005 - CPCN Application, page V-30

3/15/2006 – Transmission Ranking Cost Report of SDG&E (U902E) for Renewable Portfolio Standard Procurement, page 7 and page 11

3/29/2006 - UCAN Data Request #1 – Question #32

12/22/05 - 2006 Short Term Renewable Procurement Plan, page 14

12/6/05 - Supplement to the Long Term Procurement Plan of SDG&E (U902E) for the Renewables Portfolio Standard Program, page 13

3/29/2006 - UCAN Data Request #1- Question #36 g)

8/4/2006 - Amended CPCN Application for Sunrise Powerlink, page III-4

9/9/2006 & 12/1/2006 - UCAN Data Request #4- Question #24

12/1/2006 - UCAN Data Request #4- Question #25

The examination of a substation has been conceptual in nature. No firm plans have been developed for the substation or potentially related transmission at this time.

Therefore, it is important to note that the need for this substation is not automatically triggered by the need and/or approval of the Sunrise Powerlink. Further, as stated above, SDG&E's present expectation is that this substation will be constructed absent the Sunrise Powerlink, and the need for this substation is not dependent upon the Sunrise Powerlink for its justification.

ii. See the attached map titled CPUC ED DR17 Map 8-6-07. No substation site has been selected. There is no name for this contemplated substation, as "Jacumba" merely references the general area of the wind potential. The transmission constructed from generators to the switchyard could be 500, 230 or 69 kV so there is not any specific 230 kV line that SDG&E is contemplating at this time. However, if SDG&E chooses to include 69 kV facilities to improve reliability to the existing SDG&E 69 kV system, the substation project would include a 69 kV line as noted on the map.

iii. The timing of a new substation is not specifically connected to the completion of Sunrise. The timing will be driven by the generation interconnection requests and the timing is independent of Sunrise.

iv. Yes, the substation and certain generator interconnects could be constructed in the event that the Sunrise Powerlink is either delayed or is not approved. The respective voltage of the generator interconnects will be determined by the individual generators. The timing of the construction of the substation and generator interconnects is driven by the proposed commercial operation dates of generators who have requested interconnection to SWPL. Several generators in the queue have CODs of January 1, 2010 to coincide with the State RPS goal for 2010. A limited amount of generation could connect and be deliverable even if Sunrise is not yet constructed by January 2010. In

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addition, the reliability improvements of including a 69 kV line to connect to the local 69 kV network at Boulevard Substation are independent of Sunrise.

v. SDG&E does not have specific information about the exact locations of potential wind development in this region. Wind generation projects that have the potential to use this substation are those that have requested interconnection to SWPL not the Sunrise Powerlink. They include one in the Boulevard area, one in the Jacumba area and several in the La Rumerosa region of Baja California, Mexico.

vi. In order for the first project to interconnect to SWPL, the substation must be in-service with a 500 kV switchyard as a minimum. Based on queue order in the CAISO large generator interconnection queue, the first project requesting interconnection to SWPL has queue number 106A at 160 MW. This project supports the need for this substation. Article 4.2 of the Large Generator Interconnection Agreement (LGIA) addresses the provision of service and states in pertinent part: "The Participating transmission owner (TO) and the ISO shall provide interconnection Service for the Large Generating Facility."

- b. With respect to the "Renewable generation in Imperial County" questions posed by the CPUC Energy Division, SDG&E responds as follows:

i. Providing transmission capability for Imperial Valley renewables is a Project Objective¹ as stated in the PEA. (See, e.g., Chapter 2, page 2-21, section 2.2.4.

As stated by Ms. Brown in cross examination², approximately 300 MW of generation could be connected and deemed deliverable without the Sunrise Powerlink. Once this threshold has been reached, any new or future development that wanted to connect to the region would require a project such as Sunrise to make their energy deliverable. As stated below, additional generation would require the use of a SPS.

To further clarify, any new generation that connects to Imperial Valley substation or directly with the Southwest Powerlink must comply with NERC reliability criteria; specifically N-1 overloads must be mitigated. Typical mitigation is either a transmission upgrade or a special protection scheme (SPS). In the case of generation at Imperial Valley, all prior generators have elected to mitigate the overloads with an SPS to trip their plants for an N-1 of the existing Imperial Valley – Miguel transmission line, in lieu of funding a transmission upgrade such as a new line from Imperial Valley into San Diego. In the case of additional generation being added, the CAISO imposes an SPS limit for tripping generation for a single contingency. The limit for a single contingency is 1150 MW, as documented in the CAISO Planning Standards, and there is presently 1070 MW of generation directly-connected to the Imperial Valley substation that can be automatically tripped, via an SPS, for an outage of the Imperial Valley – Miguel transmission line. LGIP Studies indicate that a limited amount of anticipated new generation can be accommodated within the CAISO control area by maxing out the existing SPS to 1150 MW of generation tripping and allowing anticipated new generation within the CAISO control area to remain on-line to the extent that they do not cause

¹ Project Objective 3 states: "Provide transmission capability for Imperial Valley renewable resources for SDG&E customers to assist in meeting or exceeding California's 20% renewable energy source mandate by 2010 and the Governor's proposed goal of 33% by 2020. (See Section 2.2.2)"

² TR Page 517, line 19.

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overloads in the IID or CFE systems. Absent the construction of the Sunrise Powerlink or other similar upgrade only a limited amount of anticipated new generation within the CAISO control area could be characterized as “deliverable” as that concept is evaluated pursuant to the CAISO’s LGIP process.

Recognizing that 7,100 MW is significantly more than can be delivered even with the construction of the Sunrise Powerlink, additional facilities might be required to facilitate delivery at these levels.

ii. SDG&E does not know the level of renewable resource development that would occur in the Imperial Valley and Mexico, if any, in the event the Sunrise Powerlink is not constructed. However, it is certain renewable resource development will be constrained absent Sunrise or a transmission project like Sunrise. The Imperial Valley Study Group (IVSG) as with the Tehachapi Collaborative Study Group (TCSG) concluded the need for transmission to access renewable resources in both those areas. The development of transmission solutions to access renewable resources has been sought by the California Public Utilities Commission (CPUC) in its Decision D.04-06-010 regarding Tehachapi Wind Resource Area and by the California Energy Commission (CEC) in its 2005 Integrated Energy Policy Report proceeding.

To establish a benchmark against which to compare the economic benefits of the Sunrise Powerlink and other generation and transmission alternatives, SDG&E’s January 26, 2007 supplemental testimony assumes an in-area gas turbine “reference case” (“Case 200”). For the Imperial Valley and surrounding areas, this reference case includes the renewable resources shown on Table IV-14 of SDG&E’s August 4, 2006 *Sunrise Powerlink Transmission Project, Purpose and Need* filing with the CPUC. This table identifies the assumed technology type for each of the Imperial Valley renewable resources included in the reference case. With the exception of the solar thermal resources, all renewable resources are modeled as interconnecting within the IID control area. The solar thermal resources are modeled as interconnecting with the 230 kV bus at Imperial Valley substation. While models have assumed connections in that manner, how generators will actually connect is up to the individual generator. Recent experience demonstrates a high degree of interest in generators connecting directly to SDG&E facilities as evidenced by the ISO queue.

Note that the “reference case” used by SDG&E in estimating the economic benefits of the Sunrise Powerlink and other generation and transmission alternatives is not tied to or dependent on any specific “renewable development projects”. Instead the renewables projects used in the economic analysis are simply theoretical. This was not intended to suggest what level of renewables would or might develop with and without Sunrise. Hypothetical, unspecified renewable development does not prompt review as connected actions or cumulative impacts in the Draft EIR/EIS because they are not projects with specific locations, design details, etc. to provide a meaningful analysis.

iii. SDG&E does not know what renewable development could occur “only as a result of” constructing the Sunrise Powerlink or other 500 kV transmission alternative. Please see response to answers above for more information. Decisions to construct renewable

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resources are commercially-motivated based on developers' expectations of future benefits, costs and risks.

For purposes of estimating the economic benefits of the Sunrise Powerlink and other generation and transmission alternatives, SDG&E assumed the same level of renewable resources would develop in all scenarios, including the in-area gas turbine reference case. Thus, the Sunrise Powerlink case ("Case 200"), and all generation and transmission alternative cases, contain the same level of renewable resource development.

With respect to the Imperial Valley and surrounding areas, Table IV-14 of SDG&E's August 4, 2006 *Sunrise Powerlink Transmission Project, Purpose and Need* filing with the CPUC shows the assumed quantity and mix of renewable resources. With the exception of the solar thermal resources, all renewable resources are modeled as interconnecting within the IID control area. The solar thermal resources are modeled as interconnecting with the 230 kV bus at Imperial Valley substation. While models have assumed connections in that manner, how generators will actually connect is up to the individual generator. Recent experience demonstrates a high degree of interest in generators connecting directly to SDG&E facilities as evidenced by the ISO queue.

With respect to other areas of the WECC, SDG&E used the mix and location of renewable resources contained in the WECC economic database which was transferred to the WECC in January, 2006 from the Seams Steering Group-Western Interconnection (SSG-WI).

Note that the with Sunrise Powerlink case, and the generation and transmission alternative cases, used by SDG&E in estimating economic benefits, are not tied to or dependent on any specific "renewable development projects". Instead the renewables projects used in the economic analysis are simply theoretical. Hypothetical, unspecified renewable development does not prompt review as connected actions or cumulative impacts in the Draft EIR/EIS because they are not projects with specific locations, design details, etc. to provide a meaningful analysis.

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Cultural Resources

CULT-3 Cultural Resources Survey Data for Proposed Project.

a. Please provide us with information summarizing the status of cultural resources surveys for the Proposed Project. How many parcels remain to be surveyed? What percentage (and how many miles) of the length of each link remains to be surveyed?

b. Please provide updated data for all cultural resources surveys conducted to date for the Sunrise Powerlink Project. The data should be provided in the form of an updated Gallegos & Associates' Arc Reader CD. If not available in this format, we will need descriptions and maps depicting all portions of the Proposed Project surveyed, percentages of each link surveyed, locations and descriptions of all cultural resources recorded or updated, and any comments on the data you can provide. We have found the Arc Reader information previously provided to be comprehensive and a very accessible format for the cultural resources data and hope an updated version is available. This data should be provided directly to the Aspen Team cultural resources specialist, Kevin Hunt, at the following address: SWCA Environmental Consultants, 626 Fair Oaks Avenue, Suite 190, South Pasadena, CA 91030.

SDG&E Response CULT-3:

a. 49 privately-owned parcels remain to be surveyed. A list of the links for the entire route is provided below with the total miles; percentage surveyed to date; and the percentage and miles remaining to be surveyed; also embedded below is the letter of correspondence regarding this data request question and response from Gallegos and Associates to Arcadis:

- Coastal Link (13.48 miles) = 100% surveyed; 0% (0 miles) remain to be surveyed;
- Anza-Borrego Desert State Park (21.72 miles) = 100% surveyed; 0% (0 miles) remain to be surveyed;
- Desert Link (61.64 miles) = 97.6% surveyed; 2.4 % (1.50 miles) remain to be surveyed;
- Central Link (22.58 miles) = 83.6% surveyed; 16.4 % (3.70 miles) remain to be surveyed;
- Inland Valley Link (23.10 miles) = 90.3% surveyed; 9.7 % (2.23 miles) remain to be surveyed.



Question 3.a
response.doc

b. Updated ArcReader will be delivered via FedEx to Kevin Hunt on Monday August 6, 2007 before 10:30 am at the following address: SWCA Environmental Consultants, 626 Fair

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Oaks Avenue, Suite 190, South Pasadena, CA 91030. Embedded below are the transmittals that accompanied the FedEx packages to Kevin Hunt and Patricia Mitchell.



KevinHunt(08-03-2007).pdf



Trish(08-03-2007).pdf

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CULT-4 Survey Data for Talega-Escondido Corridor. Please state whether any cultural or biological resources surveys have been completed for this corridor, when they were completed, and provide us with any available survey reports or data.

SDG&E Response CULT-4: CD and hard copy versions of the cultural technical report for the Valley Rainbow Interconnect, written in March 2001 by James H. Cleland, Tanya Wahoff, and Cheryl Bowden-Renna at EDAW, are included in this submittal and embedded below.



Talega cultural tech
report rev.pdf



Figure 1 new.pdf



Figure 2.pdf

EXHIBIT AA



CHAPTER I

EXECUTIVE SUMMARY



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: James P. Avery

Sunrise Powerlink will also allow for the future retirement of older, less-efficient gas-fired generating units located in the San Diego area. If just the South Bay generating station retires as expected in late-2009, SDG&E will not be able to satisfy the CAISO's G-1/N-1 reliability requirement beginning in 2010, even with the needed addition of significant new in-basin generating capacity to be provided by the Palomar and Otay Mesa generating plants.

2. Renewable Energy

The Sunrise Powerlink will provide more economical access to remote areas with the potential for significant development of renewable energy sources and will encourage the development of new renewable generation thereby diversifying the state's resource mix and reducing California's reliance on fossil fuels.

SB1078 requires California's investor owned utilities to procure 20% of their electric retail sales from eligible renewable resources by the year 2017. SB1078 also requires retail sellers of electricity, including SDG&E, to increase their procurement of renewable energy by 1% per year. The EAP strives to attain the 20% goal by 2010 rather than 2017. The Commission has adopted this accelerated goal and is considering the feasibility of achieving a goal of 33% by 2020.²¹ The Commission is also requiring LSEs to supply 20% of their energy needs from renewable energy resources by 2010.²²

SDG&E is moving aggressively to meet the 2010 goal of supplying 20% of SDG&E's bundled customer energy requirements with renewable energy sources. While some economically viable renewable resource potential appears to exist within the San Diego basin, principally wind generation on the eastern edge of SDG&E's service area

²¹ See I.05-09-005 (2005).

²² See D.05-11-025, Ordering Paragraph 1, at p.27.



CHAPTER IV

RENEWABLE ENERGY



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: ~~Vincent D. Bartolomucci~~

are to be able to cost-effectively supply energy markets outside of the Imperial Valley area.

SDG&E's 2004 Renewable RFO results showed that another [REDACTED] of new projects were offered. These projects were located in the Crestwood/Boulevard area which is located in the eastern portion of San Diego County. Results of SDG&E's "least-cost, best-fit" analysis showed that [REDACTED] that bid in that area all proposed to develop for costs that were economically attractive. However it was determined that a new 138 kV transmission line would need to be built to accommodate the delivery from the four proposed bidders at a cost of \$344 million. The cost of building the new 138 kV line for these four projects, when added to the projects' bid prices, rendered the projects uneconomical. In addition, further development of this area appears problematic since the 138 kV line would only have accommodated the projects currently bid, with the next project requiring additional upgrades or construction of another transmission line in the area. In any event, when the cost of the new 138 kV transmission line was added to the overall cost of the four bids, all four projects were eliminated from further consideration in this RFO.

SDG&E's Electric & Gas Procurement Department is of the understanding, based upon publicly available information, that SDG&E's Transmission Planning group is in the process of pursuing alternative means of accessing the wind resources in the Eastern portion of San Diego County and further, that the development of transmission to interconnect potential wind generation areas in San Diego County is economically practical only if the Sunrise Powerlink is built.¹⁵ Additionally, the potential exists for

¹⁵ The Electric & Gas Procurement Department is considered a marketing entity under FERC 2004 Transmission rules and therefore is restricted from access to any non-public transmission data. This section was drafted independent of other sections of the "Purpose and Need" statement which—prior to its filing with the Commission—may have contained non-public transmission information.

development of large scale solar resources in the Borrego area of San Diego County as well as wind resources in the La Rumorosa area of Baja, Mexico. As with development of resources in the Crestwood/Boulevard area, development of the resource potential in Borrego and La Rumorosa will depend upon SDG&E's ability to find a cost-effective way to access these resources and deliver the energy to its load center.¹⁶

As the Company's projections make clear, a substantial portion of SDG&E's planned additions will depend upon development of new potential resources. SDG&E's 2004 RFO indicates that [REDACTED] of future renewable potential as related to retail sales, may be contingent upon SDG&E's ability to economically access the resources located in the Imperial Valley area and the eastern region of San Diego County.

b. Transmission Assumptions from SDG&E's TRCR

As described above, SDG&E anticipates that transmission system upgrades will be required to accommodate the substantial quantities of renewable resources whether they are in or out of SDG&E's service territory. As part of the overall evaluation process performed in conjunction with SDG&E's 2004 Renewable RFO process, SDG&E determined that the ability to transmit energy from renewable wind resources located in SDG&E's eastern service area is limited by the existing 69kV system. The existing 69kV subtransmission system will likely require significant upgrades to support the delivery of power from identified generation projects as well as future generation projects. The high transmission upgrade costs could be prohibitive for any one individual developer. SDG&E's Transmission Ranking Cost Report issued on August 22, 2005 ("TRCR") further substantiates this conclusion. The 2005 TRCR gives a good indication of the

¹⁶ SDG&E's ability to purchase from resources in Mexico will also be dependent upon approvals from both the Commission and CEC as to whether such resources will count towards RPS compliance.

locations and amounts of renewable resources that are being considered by developers for submittal into SDG&E's 2005 RFO. The TRCR shows a potential for approximately 2000 MW of bids from wind, biomass, geothermal and solar bids in the San Diego and Imperial Valley regions between now and 2010. Of this, 937 MW of wind is proposed in the southeastern portion of SDG&E's transmission system with an additional 1045 MW proposed from various technologies proposed in the Imperial Valley area. The TRCR assumes that the Sunrise Powerlink will be in place in 2010 and that a 500kV tap will be constructed somewhere along the existing Southwest Powerlink line to accommodate renewable resource potential in the eastern portion of San Diego County.

C. Independent Studies Find the Sunrise Powerlink is Needed to Support Renewables.

There are two recent reports on studies evaluating the need for transmission to support renewable acquisition and development. Both reports support the notion that the Sunrise Powerlink is necessary for SDG&E to meet its RPS goals.

1. The Imperial Valley Study Group Supports the Need for the Sunrise Powerlink.

The Imperial Valley Study Group ("IVSG") was formed to develop a phased development of transmission facilities required to ensure delivery from the Imperial Valley of approximately 2200 MW of geothermal or other renewable generation. The group is comprised of stakeholders interested in the development of the Imperial Valley's renewable resource potential, representing transmission owners, generation developers, the CAISO, the CEC, various state and federal agencies, and environmental groups, and this

Commission.¹⁷ Recently, the IVSG published its transmission plan,¹⁸ which proposes three-phases of development. Most significantly, Phase 1 identifies the need for a 500 kV interconnection between the Imperial Valley and San Diego load centers.

Specifically, Phase 1 would accommodate the future development of three new geothermal plants (or equivalent resources), 645 MW total, capable of being in service by the end of 2010. The size and timing of Phase 1 is based on CalEnergy's estimate of its work to conclude Power Purchase Agreements for three such plants. These generating units at the southern end of the Salton Sea geothermal resource area would connect to the existing IID system at IID's Midway substation, which would be expanded to accommodate the additional lines from the new resources. Delivery of these geothermal resources require upgrades of the IID transmission system from its Highline substation to El Centro substation (approximately 20 miles), and from El Centro to the Imperial Valley substation (approximately 18 miles), where the power would be delivered to the CAISO grid. These upgrades to existing facilities would be constructed to accommodate the ultimate generating capacity anticipated by IID. The upgrades would take advantage of existing facilities to minimize cost and environmental impact. They would be constructed, owned and operated by IID.

¹⁷ The IVSG was formed in response to D.04-06-010 (2004). It adopted the mission of specifying a phased development plan for the construction of transmission upgrades capable of exporting 2,200 MW of renewable power from the Imperial Valley. The IVSG is a voluntary planning collaborative made up of regional and governmental stakeholders. Participants include the Commission, all regional Transmission Owners, the CAISO, CEC, generation developers, local, state and federal agencies, environmental and consumer groups and other interested parties. Its work has been led by IID, SDG&E and SCE, and is fully supported by LADWP. The genesis and composition of the IVSG is detailed in its report at pp. 1, 8-9.

¹⁸ Development Plan for the Phased Expansion of Transmission to Access Renewable Resources in the Imperial Valley (September 30, 2005) ("IVSG Report"). The CEC website has a link to the report at: http://www.energy.ca.gov/ivsg/documents/2005-09-30_IVSG_REPORT.PDF

The other major component of Phase 1 is a new 500 kV line from the Imperial Valley substation to San Diego County, with 230kV connections to SDG&E's load center.¹⁹ The Sunrise Powerlink is SDG&E's project to facilitate delivery of generation in the Imperial Valley and other areas of the desert Southwest to the California load centers.

Phase 2 depends in part on the availability of a 500 kV link between IV and San Diego. This phase would accommodate an additional three geothermal plants (or equivalent), or 645 MW of incremental generation, bringing the cumulative new export capacity total to 1,290 MW. Based on CalEnergy's development schedule, Phase 2 upgrades should be timed to be available by the end of 2016. These upgrades would also provide market access for Concentrating Solar Power ("CSP") generation projects, and/or other renewable generation projects developed in that timeframe, in place of or in addition to new geothermal units. Phase 2 would upgrade IID's existing El Centro-Avenue 58 transmission line, from its El Centro substation to its planned Bannister substation west of the Salton Sea geothermal field. The El Centro-Bannister upgrade to 230 kV, approximately 25 miles, would utilize existing Right Of Way. IID would also construct a new 230 kV line from the Bannister substation to a new San Felipe 500/230 kV substation to interconnect to the Imperial Valley to San Diego 500 kV line (*i.e.*, the Sunrise Powerlink). The San Felipe substation could potentially provide an additional interconnection between the IID and CAISO systems, and thus another point for the delivery of renewable resources to California load centers. Phase 2 assumes that IID would build and own these upgrades.

¹⁹ SDG&E has proposed building and owning this line and is in the process of planning this project, which was studied as part of the IVSG effort. Alternatively, portions of that line or another 500 kV line in Imperial County could be built and owned by IID and/or a third party.

Phase 3 upgrades would make an additional 910 MW of Imperial Valley generation deliverable to the CAISO grid, bringing cumulative incremental export capacity to 2,200 MW. As with Phases 1 and 2, most of the new Imperial Valley generation was assumed to be scheduled to SDG&E and facilitated by a new 500 kV interconnection. Additional upgrades of the IID transmission system would support delivery of renewable resources to the Mirage/Devers 230 kV system, and/or accommodate unintended flow across Path 42.²⁰

2. The CEC Specifically Found that SDG&E Needs the Sunrise Powerlink to Meet its RPS Goals.

The CEC's recently adopted Strategic Transmission Investment Plan identified the need for certain major transmission projects, and specifically found that SDG&E needs the Sunrise Powerlink to meet its RPS goals (emphasis added):²¹

Sunrise Powerlink 500 kV Project - The proposed 500 kV Sunrise Powerlink Project would provide significant near-term system reliability benefits to California, reduce system congestion and its resultant costs, and provide an interconnection to both renewable resources located in the Imperial Valley and lower-cost out-of-state generation. *Without this proposed project, it is unlikely that SDG&E will be able to meet the state's RPS goals, ensure system reliability, or reduce RMR and congestion costs.* The Energy Commission therefore believes that the proposed project offers significant benefits and recommends that it move forward expeditiously so that the residents of San Diego and all of California can begin to realize these benefits by 2010 (Report at 6).

* * * *

In summary, the proposed 500 kV Sunrise Powerlink Project would provide significant near-term system reliability benefits to California, reduce system congestion and resultant congestion costs, and provide an interconnection to renewable resources located in the Imperial Valley and lower-cost out-of-state generation. *Without the proposed project, it is unlikely that SDG&E*

²⁰ Path 42 encompasses the transmission facilities that tie SCE's transmission system in the Devers substation area to IID's transmission system.

²¹ Strategic Transmission Investment Plan, Prepared in Support of the 2005 Integrated Energy Policy Report Proceeding (04-IEP-1K), Final Committee Report, adopted November 21, 2005.



CHAPTER V

ECONOMIC BENEFITS



Application No.: A.05-12-

Exhibit No.:

Date: December 14, 2005

Witness: Jan Strack

Victor Kruger

San Diego area transmission system. However, SDG&E has developed alternative cases (Case 3 and Case 20) which evaluate the economics of doing exactly that: adding in-area resources to satisfy the CAISO's G-1/N-1 reliability criteria for the San Diego area transmission system. The results of these alternative cases are presented in Chapter VI.

An argument can be made that were the Sunrise Powerlink not built, the quantity of renewable resources added in the Imperial Valley, particularly in the outer years, would be significantly reduced. This argument is based on the possibility that buyers, and renewable resource developers in the Imperial Valley, would be unwilling to accept the congestion cost risks which would exist if the transmission capability between the Imperial Valley and the southern California load centers were not increased. However, given the Commission's and the state's renewable energy goals, the result would simply be either to shift the required renewable resource development to other locations where such congestion cost risks are "acceptable" to buyers and renewable resource developers. But it is not apparent what an "acceptable" congestion cost risk is or where such alternative locations would be. The choice of alternative locations would likely involve different renewable resource technologies with capital costs that are different, and likely higher, from those of the renewable resources assumed for the Imperial Valley (for example, wind in the Tehachapi area versus geothermal in the Imperial Valley).

Moreover, assumptions would still have to be made regarding the nature and cost of possible transmission upgrades that would reduce the congestion costs associated with delivering renewable resource energy from alternative locations to the San Diego area. The results of such comparisons would intertwine the relative benefits of the assumed transmission upgrades with the relative benefits that flow from the choice of renewable resource technology and the assumed location of such resources. It would be difficult to

APPENDIX VI

The Imperial Valley – Central alternative or Sunrise Powerlink (diagramed above and shown in Figure VI-2) includes a 500 kV line from SDG&E’s existing Imperial Valley Substation to a new Central Substation, somewhere near the center of San Diego County, which then ties into SDG&E’s existing Sycamore Canyon substation via a pair of 230 kV lines.

Also on the final short list of four alternatives, the Sunrise Powerlink was one of the best alternatives with regard to its technical performance. It also provided a high level of relief to flows into the Miguel Substation.

With regard to economic performance, this alternative had the highest consumer benefit when looking at just SDG&E customers. From the perspective of all CAISO ratepayers, the Sunrise Powerlink had the second highest benefit, behind the Full Loop alternative.

Similar to the Full Loop alternative, the Sunrise Powerlink would provide direct access to renewable resources in eastern San Diego County and in the Imperial Valley. The alternative would also free up some amount of capacity on the existing Imperial Valley – Miguel 500 kV transmission line (the Southwest Powerlink or “SWPL”) and thereby allow renewable energy resources to economically connect to this existing 500 kV line. This could encourage renewable energy development that might otherwise not be feasible.

The Sunrise Powerlink also had among the lowest system losses and offers the best long-term expandability, being capable of expansion to either North Gila or a Full Loop at some point in the future.



CHAPTER I

EXECUTIVE SUMMARY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: James P. Avery

I.

EXECUTIVE SUMMARY

San Diego Gas and Electric Company (“SDG&E”) presents to the Commission this report demonstrating the purpose and need for a 500 kilovolt (“kV”) transmission line between the Imperial Valley and the SDG&E service area. This proposed project, known as the “Sunrise Powerlink” (“Sunrise” or “project”), is the best and most comprehensive solution to meet the following three vital purposes:¹

- Maintain Reliability: The project will enable the San Diego transmission system to satisfy the grid reliability requirements of the California Independent System Operator (“CAISO”). Absent the project, SDG&E and the CAISO project a reliability deficiency in the San Diego area starting in 2010. The project will continue to allow SDG&E and other Load Serving Entities (“LSEs”) within the San Diego service area to reliably serve their customers during periods of unusually high energy demand in the event of critical overlapping generation and transmission contingencies. Regulations, industry standards and good business practice require planning for the reliable operation of the electric transmission grid under adverse weather and system conditions.
- Promote Renewable Energy: Consistent with Senate Bill (“SB”) 1078 and the State’s Energy Action Plan (“EAP”), Sunrise will provide California consumers more economical access to the Imperial Valley, an area that is rich in renewable resource potential. Further, it will encourage the development of such resources

¹ SDG&E’s analyses and resulting benefits are viewed from the perspective of electricity consumers within the CAISO control area, unless otherwise expressly stated.



CHAPTER III

RENEWABLE ENERGY



Application No.: A.05-12-014

Exhibit No.: _____

Date: August 4, 2006

Witness: ~~Vincent D. Bartolomucci~~

2. Renewable resource outlook for the Imperial Valley

Future Resource Assumptions

As described above, the potential to develop new renewable resources within SDG&E's service area is limited. However, if one looks to Imperial Valley, there is an abundant potential for renewable resources. Whether SDG&E is able to cost-effectively transmit renewable resources sufficient for the Company to achieve a cost-effective 20% renewable mix by 2010 will still depend upon the ability of SDG&E and other entities to build additional transmission to access areas of renewable development potential. Of SDG&E's currently executed contracts, as much as 8.1% of the 13.2% current total in 2010 is dependent upon the construction of new and upgraded transmission facilities in the Tehachapi, Imperial Valley and San Diego regions with 4.6% of the 8.1% associated with projects to be located in Imperial Valley. In addition SDG&E's 2005 Renewable RFO short-list would potentially add an additional 12% of renewable resource contracts to SDG&E's overall portfolio of which approximately 3% would be located in the Imperial Valley area and approximately 6% from resources in the Crestwood area.

The potential for geothermal resources development in the Imperial Valley area is also very high. Current forecasts indicate that geothermal potential in Imperial Valley could reach 2300 MW or more.⁵ Today only approximately 450 MW of geothermal resources are developed and operating. The development of additional geothermal resources will depend in part upon the ability of the developers to cost-effectively access other markets outside the Imperial Valley area to sell the output of future projects. In addition, a number of other technologies including solar, wind and biomass also have

⁵ CEC Final 2005 Integrated Energy Policy Report issued November 21, 2005, at 103.

development potential in the Imperial Valley area.⁶ The majority of these resources will likely require new transmission if they are to be able to cost-effectively supply energy markets outside of the Imperial Valley area.

As shown here, a substantial portion of SDG&E's planned additions will depend upon development of new potential resources that are also dependent upon SDG&E's ability to economically access these resources through construction of new or upgraded transmission facilities.

3. SDG&E's 2006 TRCR demonstrates the development potential in Imperial Valley and Eastern San Diego County

As described above, SDG&E anticipates that transmission system upgrades will be required to accommodate the substantial quantities of renewable resources whether they are in or out of SDG&E's service territory. SDG&E's Transmission Ranking Cost Reports issued on September 9, 2005 (amended version) and March 15, 2006 ("TRCR") further substantiated this conclusion. The 2006 TRCR gives a good indication of the locations and amounts of renewable resources that are being considered by developers for submittal into SDG&E's 2006 RFO. The 2006 TRCR shows a potential for approximately 880 MW of bids from wind, biomass, geothermal, biofuels, wind and solar bids in the San Diego and Imperial Valley regions between now and 2010. Of this, 500 MW of wind is proposed in the southeastern portion of SDG&E's transmission system with an additional 360 MW proposed from various technologies proposed in the Imperial Valley area.

⁶ SDG&E's 2005 Short-list includes offers for approximately [REDACTED]
[REDACTED]

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
(Filed August 4, 2006)

Application 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
JAMES P. AVERY
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 latter project has only fostered the emergence of 4,300 MW of new generator interconnect
2 requests to the CAISO for the development of new wind resources in the Tehachapi region. In
3 contrast, it appears that the pending Sunrise Powerlink project - still in the Commission's
4 CPCN process - has already fostered over 6,000 MW of new generator interconnect requests in
5 the CAISO queue for renewable resources.³ Given the documented renewable potential in and
6 near the Imperial Valley, the Sunrise Powerlink is already an important component of the State's
7 energy strategy. As I testified earlier, Sunrise will immediately provide large-scale access to
8 some of the most promising sites for renewable development, encourage developers to invest in
9 additional ventures, and provide SDG&E with the ability to deliver that power at a lower cost
10 than the alternatives. Indeed, given the more than 6,000 MW of interconnection requests in the
11 CAISO queue that would benefit from Sunrise as described by Ms. Brown, it is beyond dispute
12 that the Imperial Valley, and surrounding areas, offers renewable potential far in excess of
13 existing delivery capability.

14 **B. UCAN is simply wrong about Sunrise and Imperial Valley Renewables**
15 **development.**

16 UCAN postulates that there will be little if any renewables developed in Imperial Valley
17 and that what is developed can be delivered to San Diego with or without the Sunrise Powerlink
18 (Marcus at 90-103, 137).

19 At present, as noted above, the CAISO queue contains in excess of 6,000 MW of
20 generator interconnect requests to the SDG&E system, all of which would rely on capacity made
21 available by the Sunrise Powerlink for deliverability to the CAISO system. In addition, IID has

³ This does not include generator interconnection requests that are managed by LADWP that would utilize the Green Path North project, or the almost 500 MW of requests that are managed by IID, which would benefit from Sunrise.

1 received almost 500 MW in generator interconnect requests which could also benefit from
2 Sunrise.

3 The Sunrise Powerlink is the only viable alternative by which this energy can be
4 delivered to San Diego without creating undue congestion. Alternatives that have been analyzed,
5 and rejected, include options such as new transmission through Mexico, a new transmission link
6 parallel to SWPL, and utilization of the Green Path North Project. New transmission through
7 Mexico as well as a second SWPL had been analyzed under the STEP process and rejected. Ms.
8 Brown's testimony details why these options don't work. And the suggestion that the Green Path
9 North Project is an alternative to Sunrise has been rejected by LADWP, the sponsor of that
10 project, as documented in a letter from Henry Martinez to Commissioner Dian Grueneich dated
11 April 13, 2007, wherein Mr. Martinez states (emphasis added):

12 While discussed as coordinated, the Green Path North Project is separate
13 and distinct from the Green Path Southwest/Sunrise Powerlink Project.
14 The two projects are designed to serve the requirements of different load
15 centers. Further, the LADWP anticipates that the Green Path North
16 Project will be a critical link in the City's mandate to securing 20% of its
17 resource requirements from renewable energy by 2010. And while the
18 Green Path North Project will play a significant role in the LADWP's plan
19 to secure renewable resources, *it should not* be viewed as an alternative to
20 the Green Path Southwest/Sunrise Project. Nor is the Green Path
21 Southwest/Sunrise Project an alternative to the Green Path North.

22 UCAN also suggests other options may materialize making the need for Sunrise moot,
23 yet UCAN has presented no analysis of the feasibility of the hypothetical and speculative
24 alternatives it proffers. Project opponents would reject Sunrise as a pillar of renewables strategy
25 based only on beliefs that renewable resources will prove more costly than other alternatives,
26 that new technology will fail, will be in short supply or will somehow re-materialize at lower or

1 similar costs and benefits within SDG&E's service territory or at other locations outside of the
2 Imperial Valley.⁴

3 SDG&E has embarked on a very aggressive program to expand its use of renewables.
4 Since 2002, SDG&E has conducted seven solicitations for renewables and has signed contracts
5 for hundreds of megawatts of new renewable capacity. If the natural resources were available,
6 along with adequate land to host such projects within the San Diego load basin, and developers
7 could cost-effectively develop these projects, they would bid them into our solicitations.

8 Unfortunately, our experience demonstrates that, contrary to UCAN's suggestion, the potential
9 for siting renewables within the SDG&E load basin is limited to relatively small projects and is
10 not remotely feasible. On the other hand, our experience also demonstrates that the potential for
11 siting renewables in the vicinity of Imperial Valley substantiate our findings that this region is
12 rich in renewable resources. The Sunrise Powerlink, with the capability to deliver up to 1,000

⁴ Especially naive is UCAN's vague "site banking" proposal (UCAN, Shames, at 38-40), which posits that SDG&E could somehow encourage renewable development in San Diego by creating energy parks. If there is so much real estate close to San Diego available for such an endeavor, it will be exploited by developers in the RFO process. UCAN does not attempt to reconcile its fantasy with the timing and imperatives of the RPS competitive solicitation and project approval process, or why it must rely on SDG&E's initiative to secure sites for future development. Further, to accept UCAN's proposal, one must believe that it would be relatively easy and inexpensive to acquire what could be over 100 high-value sites [e.g. the proven right location for renewable energy development] that could be as large as 100 acres each in the east county of San Diego, and that ranchers, retirees and others would be willing to accept these energy parks on their landscape. This proposition is belied by the nature of active interventions in this case, where there are strong challenges from backcountry residents, as well as from those who knowingly purchased homes near a pre-existing transmission corridor. And one would have to believe that all of this energy could be delivered over a relatively weak 69kV transmission system with little or no system improvements. Yet, UCAN identifies no specific sites for consideration, and conducts no analysis to substantiate its assertions that this proposal is even remotely feasible.

1 MW of capacity, is SDG&E's connection to deliver these renewables on an uncongested basis.⁵
2 And, our experience demonstrates that developers have not had any difficulty finding the natural
3 resources, coupled with the necessary land such that they can economically justify bidding such
4 projects into our solicitations.

5 One final point in this regard is that UCAN postulates that renewables will be built with
6 or without Sunrise. The fallacy in this argument is that absent a transmission project that would
7 make renewables deliverable to the CAISO system being sponsored by an entity such as
8 SDG&E, under current FERC interconnect rules, renewable developers must advance the cost of
9 the necessary upgrades in order to make their energy deliverable. Absent Sunrise, and the sheer
10 fact that there is no other viable alternative to deliver the available renewable energy from the
11 Imperial Valley region, developers will not be able to fund such an endeavor on their own. This
12 is especially true since a major portion of the renewable projects are being developed by small
13 companies trying to establish themselves and who already have difficulty meeting the basic
14 credit requirements to sell to a utility, without having to fund a major transmission endeavor.

15 **C. Project opponents would risk Reliability by betting on conservative forecasts,**
16 **just-in-time fixes, novel programs, and the timely emergence of speculative**
17 **projects.**

18 As for reliability, project opponents would have San Diego rely on a patchwork of small,
19 largely unproven alternatives to ensure long-term reliability, coupled with a bet on low demand
20 forecasts, as well as on a belief that the CAISO should (or would) relax prevailing reliability
21 standards. The risk of their wager is compounded by counting resources that are, at best,

⁵ It is difficult not to conclude that SDG&E's pursuit of the Sunrise Powerlink contributed substantially to the robust developer interest in delivering renewable energy across this proposed line.

EXHIBIT BB

1 A Yes, it does.

2 Q And does it show that for every year between
3 2009 and 2016 inclusive San Diego has a reliability
4 surplus with a new 500-kV line parallel to the Southwest
5 Powerlink and with no other new resources added?

6 A Yes, it does.

7 Q So is it fair to say that a new 500-kV line
8 parallel to the Southwest Powerlink is commonly called a
9 second SWPL?

10 A Yes.

11 Q And is it fair to say that a second SWPL will
12 keep the lights on in every year to 2016 based on Table
13 H-8 with no other resources added?

14 A Yes, it is.

15 Q In your rebuttal testimony on page 42 you say
16 that there can be no reasonable reconciliation between
17 UCAN's assertion that a second SWPL will keep the lights
18 on based on Table H-8.

19 A Can I read the footnote of the table?

20 ALJ WEISSMAN: There's not a question yet.

21 THE WITNESS: I'm sorry.

22 MR. MARCUS: And I will withdraw the question.

23 Q On page 39 in section Roman 25 of your
24 rebuttal testimony you refer to, in the last sentence of
25 that section, the last part of the sentence:

26 ... a significant amount of
27 development interest has been
28 demonstrated since the

1 announcement of the Sunrise
2 project.

3 Is that a reference to new renewable
4 generation projects in the Imperial Valley?

5 A That's a representation of the renewable
6 projects in the ISO's generator interconnection queue in
7 the Imperial Valley.

8 Q What is your definition of the Imperial
9 Valley?

10 A For definition here, if you refer to my Table
11 4 on page 50, all of the renewables that are proposing
12 to interconnect to the Imperial Valley Substation, the
13 Southwest Powerlink, or the Miguel Substation I would
14 consider to be in the Imperial Valley region.

15 Q Well, let's start with the last one of those.
16 Can you explain how a resource that connects to the
17 Miguel Substation in western San Diego County is an
18 Imperial Valley resource?

19 A Yes. I'll explain why I consider it from a
20 transmission planning perspective to be in the Imperial
21 Valley region. Right now the limitation is on the
22 Imperial Valley-Miguel 500-kV line. So any of these
23 renewable generators that I've said I consider in the
24 Imperial Valley region, if they were interconnected in
25 there, they would be effected by the existing RAS that's
26 in place, which has a gen drop maximum. So they would
27 all have to be considered -- they're all considered the
28 same area, Imperial Valley to Miguel, when we're looking

EXHIBIT CC

In the Matter of the Application of San Diego Gas &
Electric Company (U 902-E) for a Certificate of Public
Convenience and Necessity for the Sunrise Powerlink
Transmission Project

Application No. 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
LINDA P. BROWN
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 As a result, SDG&E⁴⁶ is now limited in terms of what it can import beyond the Imperial
2 Valley. Though SDG&E did receive an increased allocation of the AZ-CA system via the recent
3 Path 49 Upgrades; since around 2004 it cannot presently use all of its import capability due to
4 the limitation at Miguel.⁴⁷

5 It is for this very reason that the DRA's statement is off target. In fact Sunrise will allow
6 new renewable resources to be imported into SDG&E's system (the CAISO grid) from the
7 Imperial Valley area. It will also increase CAISO grid access to other resources or markets in
8 the Desert Southwest by eliminating the bottleneck that now exists from the Imperial Valley into
9 SDG&E's system that potentially results in under-utilization of Desert Southwest resources.
10 Based on the historical trends that have been illustrated in terms of upratings that have occurred
11 on major transmission facilities, it is reasonable to deduce that over time, the rating of Sunrise
12 may also increase in a similar fashion, making it even more effective in providing access by the
13 CAISO to both Imperial Valley resources and other Desert Southwest resources.

14 **XXXI. SUNRISE HAS SPURRED THE INTEREST OF RENEWABLE DEVELOPMENT** 15 **IN THE IMPERIAL VALLEY**

16 SDG&E agrees with DRA that a key benefit of enhancing the CAISO's connection to IID
17 is gaining more economical access to IV renewable resources (Woodruff, page ES-4). Table 4
18 below shows the renewable generation projects in the CAISO queue as of June 11, 2007 that are
19 proposing to interconnect in the San Diego area. Since SDG&E's January 26th filing, more than

⁴⁶ Throughout this discussion, it should be understood that references to SDG&E's import capability are in the context of SDG&E being one of the Participating Transmission Owners (PTOs) of the California Independent System Operator (CAISO), and that the CAISO has Operational Control over the system of SDG&E and the other PTOs.

⁴⁷ SDG&E's 1162 MW allocation on the SWPL from Arizona, combined with power injections at Yuma (55 MW) and Imperial Valley (1350 MW), result in a capability of up to 2567 MW. However, the power limit into Miguel at the 500 kV level is 1750 MW, representing a deficiency that has existed since 2006 in terms of transmitting available power from Imperial Valley (or any Desert Southwest source) to SDG&E's system.

3500 MW of new renewable interconnections have been proposed in the Imperial Valley region. In addition, there is an additional 1,900 MW in the queue that will benefit from the Sunrise Powerlink through the additional capacity that will be made available. This doesn't include the 495 MW of renewables in IID's generator interconnection queue.

Table 4
Active Renewable Generation Projects in the CAISO Queue

As of June 11th, 2007

LOCATION	MW	RENEWABLE TYPE
East County	354	Wind
Imperial Valley Sub	1400	Solar
Imperial Valley Sub	3000	Wind
Border Substation	27	Biomass
SWPL	1580	Wind
Miguel Substation	500	Wind

As SDG&E witness William Kemp testifies, the Sunrise project will allow developers of renewables to consummate power sales contracts with customers such as SDG&E, and to contract for transmission service. This will greatly facilitate financing for the projects since it will both reduce a substantial development risk involving access to the grid and will increase the range and volume of financially viable projects that could be developed.

XXXII. NO NEED FOR A SAN DIEGO GRID RELIABILITY ACTION PLAN

The testimony of Division of Ratepayer Advocates⁴⁸ states that they believe the Commission should implement a "San Diego Grid Reliability Action Plan" and the Commission should pursue this planning exercise in parallel with its analysis of Sunrise.

SDG&E disagrees with this need for a separate planning regime since system resource needs have been and continue to be included in the Commission's long-term procurement planning proceedings. Grid wide resource needs and the role of transmission as part of a

⁴⁸ Phase 1 direct testimony, Volume 1 of 5 (Kevin Woodruff), page ES -8, lines 5-7.

EXHIBIT DD

1 instance, would it allow the reconductoring of lines?]

2 A No.

3 If we were to upgrade to the twenty and fifty
4 here, the studies that we had done in response to UCAN's
5 data request, we took out our largest generator and we
6 lost SWPL, and we'd have to be able to withstand the
7 next contingency.

8 We would not be able to withstand the next
9 contingency without these additional upgrades, which is
10 our Category B; otherwise I'm going back down to my 2200
11 megawatt number.

12 Q So the answer is no, the ISO does not require
13 or allow taking other measures?

14 A That's correct.

15 Q Okay.

16 Now let's shift gears a little bit.

17 A Okay.

18 Q On Monday Mr. Avery was asked if the first 300
19 megawatts from the Stirling projects were -- would be
20 deliverable to SDG&E without Sunrise; do you remember is
21 that?

22 A Right.

23 Q And he said -- I think he said that you knew
24 the answer to that question.

25 A Right.

26 Q So is it deliverable without Sunrise?

27 A An additional 300 megawatts of generation
28 would be deliverable without Sunrise.

1 Much more than that -- and I -- let me put two
2 caveats on that: the existing system, as it is today,
3 the ISO has a Remedial Action Scheme that has the 1150
4 megawatts of generation, so any more than roughly 300 or
5 400 megawatts, what happens, if you lose SWPL, the rest
6 of it's going to flow into the CFE system. That's where
7 the limitations are coming.

8 So we've already studied the 300 with Stirling
9 projects, so we know we can get an addition 300 flowing
10 down there.

11 But any -- basically not far away from that
12 300 megawatts, any new generation that would be able to
13 connect in that area would need a 500-kV line.

14 The ISO would not allow it to interconnect
15 with that because they've got a generation-trip limit
16 down there. They are just -- (indicating) the CFE
17 system can't handle it.

18 Q So how far beyond the 300?

19 A The lines are rated -- CFE's lines, I think,
20 are 480-something megawatts.

21 I don't think you could get 480 out of it
22 because some of it -- there is more flows coming from
23 Palo Verde, so not much more than 300, maybe 400 at
24 best, I would guess.

25 Q Okay.

26 Now let's turn to page Roman 2-18 of your
27 direct testimony in Exhibit SD-5.

28 And at the bottom -- the bottom of that

1 interconnect that much generation and deliver the power
2 even with the REC taken off of the power, separated from
3 the power and traded separately. That power still needs
4 to go somewhere. And I just don't believe you can push
5 that kind of generation out of Imperial Valley without
6 building some significant transmission upgrades. And I
7 think that the Imperial Valley study group bears that
8 out, the results of their study.

9 And that's generally my understanding of it.

10 Q So your understanding is that the Sunrise is
11 the only means for removing -- moving a significant
12 amount of renewable generation out of the Imperial
13 Valley?

14 A No, your Honor. I understood the question to
15 be would Sunrise be necessary.

16 Let me modify my answer.

17 Bulk transmission would be necessary --
18 additional bulk transmission would need to be added to
19 the system to move the power out of the Imperial Valley.
20 Sunrise, of course, would be one option for doing that.

21 Q In your direct testimony at 3-4, you say that
22 SDG&E has received bids in its renewable RFOs for solar
23 thermal projects. Do you recall that?

24 A Yes, your Honor.

25 Q Does SDG&E consider the generation from these
26 solar thermal projects to be deliverable without
27 Sunrise?

28 A I believe the majority of it is not

1 deliverable without Sunrise or some equivalent addition
2 to the transmission system.

3 Q You believe or --

4 A I believe, based on information I have seen --
5 confidential information I have seen from the California
6 Independent System Operator, I'm informed by that
7 information that most of that power cannot be delivered
8 without a transmission upgrade.

9 Q What do you mean by most?

10 A There is provision for a slice of it, and it's
11 somewhere between, my reading of the documents,
12 somewhere between 150 to 300 megawatts would be
13 delivered without. But anything beyond that, the next
14 megawatt is going to require some sort of transmission
15 upgrade to get the power delivered.

16 Q How much generation is deliverable out of
17 Borrego Springs today?

18 A I don't know the answer to that. I know that
19 it's very limited, but I don't know.

20 Q Do you know if it's less than a hundred
21 megawatts?

22 A I believe it to be less than a hundred
23 megawatts, but I don't know the exact answer.

24 Q Was the bid at Borrego that you discussed at
25 page 3-4 rejected because it wasn't deliverable?

26 A I'm afraid I'm not familiar with that, why
27 that particular offer was rejected.

28 Q So you also don't know whether it was rejected

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Application No. 06-08-010
(Filed August 4, 2006)

Application No. 06-08-010
Exhibit No.: _____

**PREPARED REBUTTAL TESTIMONY OF
WILLIAM J. KEMP
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

June 15, 2007

1 projects can readily connect to a nearby unconstrained transmission system, the additional cost
2 for transmission facilities will not pose a large barrier for attractive projects. However, if the
3 transmission system is constrained and generation project developers are required to provide up-
4 front capital contributions for the required upgrades or new lines, the financing burden and risks
5 for the developers increases substantially. Their capital needs increase and their financial profile
6 becomes riskier in investors' eyes. Fewer projects would be able to obtain financing, and those
7 that did would pay higher costs for capital, with consequently higher prices to customers like
8 SDG&E. This is especially true for developers of renewable energy projects, who are typically
9 smaller and more thinly financed than developers of large fossil-fueled plants.

10 3.7 On the other hand, financing for a line like the Sunrise Powerlink could be
11 obtained more quickly and at lower cost by a well-capitalized utility such as SDG&E. Its cost of
12 equity capital is significantly lower than that of the typical IPP, and it also enjoys lower costs for
13 debt. Its weighted cost of capital is lower, despite the lower leverage. (This capital cost
14 advantage is to be expected, since regulators encourage utilities to structure their balance sheets
15 to minimize costs of capital.)

16 3.8 Stepping back and looking at the issue from a fundamental level, one must
17 recognize that the wholesale power system operates as an interconnected whole. All generators
18 must be linked to loads through transmission or distribution lines. Building one without the
19 other would be a waste of money. Transmission lines such as Sunrise Powerlink serve as an
20 essential transport path to bring generated electricity to market, just as other modes of
21 transportation move other types of goods to market. In the case of the electricity industry,
22 transmission lines also serve as a bi-directional pathway to provide emergency or short-term
23 support from one system to another.

24 3.9 Thus, from the Independent Power Producer's perspective, the improved access to
25 markets enabled by the Sunrise Powerlink will increase the range and volume of financially
26 viable projects that could be developed. If the Line is not built, would-be project developers in
27 the Imperial Valley will be constrained to the customers they can access through existing
28 available transmission capacity, which is fairly limited, and perhaps other new lines out of the
29 Imperial Valley, if they are built (e.g., the proposed Los Angeles Department of Water and
30 Power's 500 kV Green Path North project). Either way, the renewable energy would be

EXHIBIT EE

1 Q I guess I'm talking about once this power gets
2 to the Imperial Valley Substation and then is sent to
3 San Diego, do those generators incur any transmission
4 costs?

5 A They would be delivering their power into the
6 Imperial Valley Substation. And again, I think in that
7 case, yes, they would be delivered or be deliverable to
8 San Diego at that point in time.

9 Q Same with Stirling and same with Esmeralda?

10 A No. Stirling and Esmeralda specifically have
11 provisions that condition them on the approval of
12 Sunrise Power Plant.

13 Q I guess my question is: Those generators
14 wouldn't absorb any costs of sending the power from
15 Imperial Valley substation to SDG&E because SDG&E takes
16 that power at Imperial Valley, right?

17 A Yes, we would take delivery at Imperial
18 Valley, again subject to the Sunrise Powerlink being
19 approved.

20 Q And those generators shouldn't be subject to
21 any transmission cost after they have delivered their
22 power to Imperial Valley, correct?

23 A The Imperial Valley Substation, correct.

24 Q Okay. And that's true of all three contracts:
25 Esmeralda, Bethel and Stirling?

26 A That is correct.

27 Q Okay. Isn't it true that if SDG&E signs
28 contracts for Imperial Valley renewables with delivery

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing **SAN DIEGO GAS & ELECTRIC COMPANY'S (U 902-E) MOTION TO CLARIFY ASSIGNED COMMISSIONER'S RULING AND FOR A SCHEDULE ADJUSTMENT** on all parties of record in A.06-08-010 by electronic mail and by U.S. Mail to those parties who have not provided an electronic address to the Commission. I have also sent hard copies by overnight mail to the assigned ALJ(s) and Commissioner(s).

Dated at San Diego, California, this 16th day of August, 2007.

/s/ JOEL DELLOSA

Joel Delloso

CALIFORNIA PUBLIC UTILITIES COMMISSION

Service Lists

Proceeding: A0608010 - SDG&E - CPCN FOR THE
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